

outcast and
starving amid
the wonders
we have made

community
debate
on
logistics

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In recent years, the ideas of common, communism and commune have come to occupy the radical political imagination, achieving a certain circulation and even gaining a foothold in what one could call the spontaneous philosophy or common sense of some political activism. These concepts have been given different, sometimes incommensurable, inflections by various authors and schools of thought, but their current prominence and diffusion may be regarded as indicative of a lowered tolerance for a social order whose returns are ever-diminishing, and whose future appears ever bleaker. But they also register the lack, or the refusal, of a 'classical' revolutionary image of emancipation that would identify the subjects and mechanisms capable of transforming this world into another one.

There is a curious trait shared by many disparate, and often mutually hostile, branches of contemporary anticapitalist theory: the epochal defeats of workers' and communist movements are recoded as preconditions or signs of a possible victory. Whether deindustrialisation is viewed as a response to the emancipatory flight of labor from the factory or the collapse of the party-form is welcomed as heralding a truly generic communism unburdened from bureaucratic authority, today's partisans of a communism reloaded detect signs of hope in the social and political realities that pushed scores into renegacy or despair. The title of a collection of texts by the group *Tiqqun – Everything's Failed, Long Live Communism!*¹ – could serve as the motto for much thinking in this vein. On one level, there is nothing particularly novel about this: the stagnation, betrayal or collapse of official socialisms or Marxisms has frequently been perceived by dissident communists (councilists, Trotskyists, situationists, workerists, etc.) as the occasion for re-establishing their practice on a theoretically firm and politically coherent platform, away from the disastrous compromises and collusions that marred the mainstream.² Indeed, declaring the foreignness to a true communism of

¹ Tiqqun, *Tout a failli, vive le communisme!* (Paris: La Fabrique, 2009).

² For a very useful, and charmingly acerbic, survey of the ultra-Left varieties of this phenomenon, as viewed in retrospect from the perspective of communization theory, see (Roland Simon/Chemins non tracés) *Histoire critique de l'ultra-gauche*. Trajectoire d'une balle dans le pied (Paris: Éditions Senonevero, 2009).

the hegemonic organizations in the workers' movement and of socialist states was the *raison d'être* of many of the political traditions that formed those thinkers who today continue to proclaim themselves communists.³

To different degrees, an expatriated Marxism and a hypothetical communism characterise much of the theoretical panorama of the radical Left.⁴ But what is it to be a theoretical heretic after the political death of orthodoxy? This is not an otiose⁵ question: being orphaned of one's overbearing and intimate enemy (the dominant communist and workers' movement), has marked a watershed in the interlinked histories of dissident communisms. Though, as indicated by the periodic exorcisms of the determinist Marxist bogeyman, the habits of opposition die hard, the discursive domain in which contemporary theoretical communisms exists is a markedly different one than it was even a couple of decades ago. Significantly, the separation from the deadening weight of the Soviet monolith has not translated into the much-vaunted liberation of political energies that many on the far Left announced around 1989. Central to the critical repertoire of dissident communists towards the socialist movement was the claim that the latter had abandoned the project of revolution, that for all of its own condemnations of the limits of social-democracy and the dangers of opportunism, it had sunk into a sterile gradualism (in the capitalist countries) or perpetuated capitalism itself under conditions of bureaucratic domination (in the socialist ones).

Among the features of this dissidence without orthodoxy is the struggle to generate a contemporary concept of revolution, accompanied by the tendency to refuse the idea that anything like reform is possible in the present (contrary to the kind of gradualist positions that would see a domestication of capitalism, say by the regulation of financial transaction, or some neo-Keynesian compromise, as both viable and desirable). In fact, I would suggest that the seemingly inexorable collapse of any reformist project, together with the adulteration of 'reform' into a concept synonymous with neoliberal adjustment (as in 'pension reform'), has had remarkably deep effects on the radical political imagination, and on its very vocabulary. The upshot of this predicament is the proliferation of an intransitive — by which I mean the idea of emancipation and equality no longer as objectives of a drawn-out programme, a strategy and/or a transition, but as

³ Negri's vitriol against the PCI, and Badiou's against the PCF, are among the more obvious examples.

⁴ On the idea, drawn from Badiou's writings of the 1980s, of an 'expatriation' of Marxism, see my 'Marxism Expatriated: Alain Badiou's Turn', in *Critical Companion to Contemporary Marxism* (Leiden: Brill, 2008), 529-48.

⁵ Useless, impractical.

matters of immediate practice, in a fusion of means and ends that seems to abrogate the entire temporal framework of reform and revolution.

The parameters of the classical distinction between reform and revolution – present, for instance, in Rosa Luxemburg’s famous polemic against Eduard Bernstein⁶ – appear to have fallen by the wayside. Social-democratic reformism was founded on a theory of capitalism’s (more or less limitless) capacities for adaptation, whose tendencies to crisis would be neutralized by credit, the unification of capitals and the perfecting of the means of communication, opening up the possibility for a reformist path to socialism through unionization, social reforms and the democratization of the state – that is on a theory of the virtuous dialectic in the capital-labor relation, whose temporality one could discern in the post-war Fordism of the Golden Thirties. For Luxemburg, not only was such adaptation illusory (and we could easily turn our minds today to the vicious rather than virtuous relation between credit, communication and big capital) but the revolutionary perspective necessitates the eventuality of a *collapse* of capitalism, a collapse both assumed and accelerated by conscious revolutionary masses. In this light, the loss of a theory tying together the time of action and the materiality of history renders certain contemporary debates on communism more formal than strategic.

That the tentative recovery of the political idea of communism in the present should take an a- or even anti-historical form should be no surprise to the historical materialist. At an uneven and global scale, the bond between the temporality of capitalist development and that of class struggle and formation, joined with the reflux of the labor movement, organized revolutionary politics and of anti-imperial liberation struggles means that the idea of an egalitarian overcoming of the capitalist mode of production, written inexorably into the latter’s tendency, has little if any mobilising power or plausibility. It is symptomatic that even those who seek to maintain, in however mutant a guise, a notion of capitalism as the bearer of real propensities towards alternate forms of production, association and sociality explicitly forsake the language of history, often in the guise of a repudiation of political memory and a critique of teleology – a *forma mentis* that when repressed tends to return more or less surreptitiously, for instance in the guise of various forms of spontaneous, insurgent, or reticular revolution, which more or less contend that emancipation is latent in social trends. The optimism of reason is not so widespread, however, and I would suggest that the critical or anticapitalist common sense is that there are no immanent tendencies or dispositions that augur a transition, save, and this is hardly encouraging, the barbaric or nihilistic propensities of a capitalism that is increasingly exclusionary of an unemployed and surplus humanity, and

⁶ Rosa Luxemburg, ‘Reform or Revolution’, in *Rosa Luxemburg Speaks*, ed. Mary-Alice Waters (New York: Pathfinder Press, 1970), 51-128.

menacingly, and for some irreversibly, destructive of the very natural basis for human social existence.

For all of its internal variations and differends, the current radical or communist renaissance in theory can thus be negatively characterised by the apparent abeyance of the reform/revolution dyad, and by the concurrent problematization of the progressive schema of communism's overcoming of capitalism, which in classical Marxisms was politically translated into various imaginaries and strategies of transition, be they reformist or revolutionary. Two things can be noted at this point. The first is that the loss of the theoretical schema that tied together capitalist development, capitalist crisis, class subjectivity and political organization into a strategic and temporal framework – 'reform or revolution' (or even revolutionary reforms, or non-reformist reforms) – means that the field in which contemporary communist theorists stake their political positions has uncertain contours. Intransigent opposition to the perpetuation of capitalist relations of exploitation and domination coexists with proposed measures (from the social wage to the unconditional regularization of all 'illegal' workers) which do not fit into the politics of time of classical Marxism, being neither revolutionary instruments nor tactical expedients, neither strategic steps nor elements of a transitional programme. The second very significant feature of the recent discussion of communism (as well as of related terms like common and commune) is the manner in which the loss or repudiation of the historico-political imaginary of the overcoming of capitalism, that is, the generation of an a- or anti-historical communism, has been accompanied by historicizing reflections explaining why the transitive politics of the nineteenth and twentieth centuries (whether reformist or revolutionary) has become obsolescent. Here too, the essence of defeat appears to be a kind of victory: only now, with the thoroughgoing post-Fordist restructuring and decomposition of the industrial working class is a politics of species-being possible; or, in a different vein, it is the saturation of the political sequences linked to class and party, which at last allows us to revive an 'invariant' communist idea, in which the affirmation of equality is not subordinated to the imperatives and instrumentalities of power; or again, it is with the planetary expansion of a neoliberalism hell-bent on accumulation by dispossession that we can recognize the defence, reconstitution and production of commons as the transversal and transhistorical impetus of a communism at last unburdened of stageism, Eurocentrism and a technophilic productivism.

With the foregoing, and admittedly impressionistic, theoretical sketch, I wanted to provide a context of sorts, if not necessarily for the formulation of a theory of communisation (which has its own genealogies in the European ultra-Left⁷) then at least

⁷ See *Histoire critique de l'ultra-gauche*.

for its reception. Whether we view them as profound conjunctural commonalities, family resemblances or misleading surface-effects (I would opt for the first), there are affinities worthy of note between a kind of communist *air du temps* and the specific theoretical proposals of Théorie Communiste (TC), Troploin, Endnotes and others. From an external, and broadly diagnostic position – such as the one taken here, in what is not a contribution to communization theory itself – the existence of a broad set of contemporary theoretical proposals staking a claim to communism but refusing the politics of transition is of considerable significance, even if the reasons for promoting an intransitive communism or the visions of political action consequent upon it may differ widely.

There is no denying that the refusal of a transitional understanding of communist politics, and the related historicization of that refusal in terms of the theory of real subsumption and the analysis of ‘programmatism’⁸ make the position outlined by communization theory both unique and uniquely reflexive relative to the theoretical panorama sketched above. What’s more, in conjunction with what appear to be a root-and-branch jettisoning of the *political* legacies of the workers’ and socialist movements, there is a much greater degree of fidelity to a certain Marxian *theoretical* framework. Thus, class and revolution remain unequivocally in the foreground of TC and Endnotes texts, and the classic, if very often neglected, conception of communism as the real movement of the destruction of capitalist social relations, of the abolition of the value-form, is at the center of their reflections. Both the promise and the limitations of communization theory, are to be found, to my mind, in this conjunction of value-theoretical rigor and political repudiation of Marxist and communist traditions, the ultra-Left ones included.

In what follows, I want to dwell on the problems I discern in the political, or better anti-political, dimensions of communization theory, approaching their complex and in many ways compelling analyses of value and class struggle from the vantage point of the rejection of the politics of transition. Inevitably, this will mean providing a truncated critique of arguments that have the considerable virtue of operating at the level of the totality, though I would maintain that the paucity of strategic and political reflection within communization theory is debilitating notwithstanding, or in the end perhaps because of, the coherence of its theoretical analyses.

Let us take two definitions of communization, from TC and Endnotes respectively:

⁸ On which see Théorie Communiste, ‘Communization in the Present Tense’ and Endnotes, ‘What are We to Do?’ in *Communization and its Discontents*, ed. Benjamin Noys (New York: Minor Compositions, 2011), 23-58.

In the course of revolutionary struggle, the abolition of the state, of exchange, of the division of labor, of all forms of property, the extension of the situation where everything is freely available as the uni cation of human activity – in a word, the abolition of classes – are ‘measures’ that abolish capital, imposed by the very necessities of struggle against the capitalist class. The revolution is communization; it does not have communism as a project and result, but as its very content.⁹

Communization is the destruction of the commodity-form and the simultaneous establishment of immediate social relations between individuals. Value, understood as a total form of social mediation, cannot be got rid of by halves.¹⁰

Some salient features of communization theory can be drawn from these definitions: the refusal of a separation between means and ends in revolutionary practice; the idea that revolution is directly aimed at the value-form and the capital-relation; the immediacy of both revolution and of the social relations it generates. These propositions stress the radical novelty and negativity of communism when considered in the context of the present. Unlike many of their contemporaries, the theorists of communization, while affirming the historical immanence of communist possibilities against any (overtly or crypto-humanist) vision of communism’s invariance,¹¹ refuse to countenance the notion that embryos or zones of communism exist in the present. This is in many respects a virtue, especially in contrast to the shallow optimism of those who claim we’ve already won the world, but simply need to shake off the husk of capitalist domination. But the salutary emphasis on communism as the real movement of the destruction of value as a social form risks trading of theoretical coherence and purity for practical irrelevance. The Leninist catechism once had it that there’s no revolutionary movement without revolutionary theory. It would be a bitter irony if the refinement of revolutionary theory made revolutionary practice inconceivable.

With the aim of sounding out the political limits of the anti-political character of communization theory, I want to indicate some domains of communist theorizing, both classical and contemporary, which communization theory disavows at its peril. Let us call these, in order, problems of communist strategy, of communist power, of communist culture and of communist transition.

⁹ *Theorié Communiste*, ‘Communization in the Present Tense’, 41.

¹⁰ Endnotes, ‘Communist and Value Form Theory’, *Endnotes 2* (April 2010), 95.

¹¹ See the whole of the first issue of *Endnotes* for the documents of the debate between the invariant-humanist (Gilles Dauvé and Karl Nesic of Troploin) and historical-anti-humanist (TC) wings of communization theory, *Endnotes 1* (2008), endnotes.org.uk/issues/1.

If something marks out the contemporary resurgence of theoretical interest in communism, across its various species, it is the almost total neglect of the question of strategy. The organizational reasons are obvious enough: the collapse or attenuation of those collective bodies that could project a path for a subject through space and time, and in the face of adverse structures and subjects, makes strategic thought largely residual or speculative (unless we include those entities, namely the Chinese Communist Party, whose largely successful strategy has involved jettisoning allegiance to communist principles). But there are also historical sources for the waning of strategy:

all the subversive strategies have both borrowed and reversed the political categories of modernity: sovereignty, but democratic and popular; citizenship, but social; territorial liberation and internationalism; war, but popular war. So it is not surprising that the crisis of the political paradigm of modernity is mirrored by the crisis in the strategies of subversion, beginning with the overturning of all their spatiotemporal conditions.¹²

The collusion of modern forms of political abstraction with value's domination and commensuration of human activity can also account for why communization theory presents us with a trenchantly non- or anti-modern (but certainly not postmodern) Marxism.

But can we abandon strategy along with political modernity? When communization theorists address the question of politics, which is to say of revolution (a notion they have the consistency to put at the front and center of their theorizing, unlike most of their contemporaries), they do so on the basis of a curious presupposition: to wit, that a struggle which is directly and uncompromisingly targeted at the abolition of capitalist value-relations is the only kind capable of bringing about communist victory. This anti-strategic strategy – which consciously repudiates the entire panoply of strategic reflection in the communist camp, from class alliance to tactical retreat, from united front to seizure of power – seems to me to confuse a historical judgment with a theoretical proposition. The judgment is widespread enough: all efforts at communism that did not venture immediately to abolish value-relations and concomitantly to abolish the revolutionary class itself were defeated, mutated into bureaucratic despotisms, or were recuperated into capitalism (even as its unlikely 'saviors', as in today's China). With considerable orthodoxy, and echoing the Engels of *The Peasant War in Germany*, TC have argued (against the voluntarist strain of communization theory of Nesic & Dauvé or Tropolin), that these set-backs were written into the history of subsumption, rather than amounting to simple subjective or organizational failings.

¹² Daniel Bensaïd, 'Stratégie et politique: de Marx à la 3e Internationale', in *La politique comme art stratégique* (Paris: Éditions Syllepse, 2010), 73.

One could of course counter, as I would be tempted to, that just because a problem (that of communist strategy, or of transition) has not been solved, does not mean it was the wrong problem all along. But even if we accepted the premises of communization theory, there is no argument presented as to how communization could amount to a *successful* strategy. Given that, by the communization theorists' own lights, there are even fewer (that is, *no*) examples of communization than of transition as actually existing practices, it is obscure on what grounds, other than the historical failures of their contraries, we are to accept that the *immediate* negation of capitalist relations is the best path towards the *effective* negation of capitalist relations. Why the collapse of capitalist forms of social reproduction, the avowed consequence of communization, would herald the construction of communist social relations, rather than the collapse of social reproduction tout court, we are not told. Similarly, in what regard the refusal of the separation between the military, the social and the political, could serve revolutionary communizing movements in struggles against highly centralized and differentiated martial and repressive apparatuses with seemingly limitless capabilities for organized violence remains a mystery. Even if we accept that all transitional strategies are doomed, this does not in any way suggest that intransitive, anti-strategic varieties of communism have any better chances of dislocating the domination of the value-form – far from it. The rather fanciful descriptions of revolutionary activity in some writings on communization suggest that, faced with the extremely unlikely (or impossible) prospect of a politics capable of living up to its standards of coherent negation, it will slip into a kind of tragic fatalism, in which no revolutionary practice will ever overcome the stringent constraints of revolutionary theory.

As an important corollary to this problem of strategy, it should be noted that the totalizing linearity of the conception of the history of real subsumption proposed by communization theory results in a presentation of the current conjuncture as one in which capital's production of sameness has rendered the questions of spatial, cultural, and geopolitical difference obsolete. The narrative of the mutations of the class-relation, of workers' identity, and of their political manifestations (namely, as 'programmatism'), together with the axiom that communization must spread like the proverbial planetary prairie fire or simply not be, appear to depend on the extrapolation of an already streamlined Euro-American history to the whole globe. The idea that class formation may still be occurring elsewhere,¹³ with different shapes and in different rhythms, is rejected, as is the entire conceptualization, which we owe to a historico-geographical materialism of the *necessarily* uneven and combined development of capitalism, and

¹³ For some recent and relevant work on this, see Ching Kwan Lee, *Against the Law: Labor Protests in China's Rustbelt and Sunbelt* (Berkeley: University of California Press, 2007).

with it of struggle in and against it.¹⁴ Rather than confronting the problems that beset the construction of effective solidarities across polities, and especially across a transnational division of labor which is employed by capital for ends at once disciplinary and exploitative, communization theory takes its account of real subsumption as warrant to sideline all of these problems, thereby ignoring precisely those very real obstacles which demand strategic reflection instead of the rather unscientific presupposition that everything will be resolved in the struggle.

Among the obvious components of any strategic thought is the element of power. Advance or retreat, patience or urgency, concentration or dispersal – the options taken depend largely on estimations of power, be it material, moral or military. But communization theory seems to hold this concern in little regard. The coercive excrescence of the state, the shifting capabilities of groups, action on the action of others, the shaping of political subjectivities by social mechanisms and ideologies – these issues are absorbed by the systemic periodization of class (de)composition and class struggle. Is this because the theories of transition that characterized ‘programmatism’ were all predicated on calculating the power of the class, and judging the context and timing of its political action? Be it in the formation of popular or united fronts, for reasons of stageism or expediency, or in the theorization of revolutionary dual power as the vanishing mediator on the path to overthrowing the capitalist state,¹⁵ the question of the organized capacity for antagonism loomed large. Again, whatever the historical and political judgment passed on these specific strategies, it is difficult to see how, on pain of a self-defeating voluntarism, the question of class power wouldn’t arise, even or especially in communizing processes. When, how, with whom and with what to undertake communization is surely not an otiose question. Short of treating the historical mutations of the class-relation as themselves the sources of class power, the power to undertake communization (something that would smack of ‘historical

¹⁴ See especially Neil Smith, *Uneven Development: Nature, Capital and the Production of Space*, third edition (London: Verso, 2010) and David Harvey, *Spaces of Global Capitalism: Towards a Theory of Uneven Geographical Development* (London: Verso, 2006).

¹⁵ I’ve tried to explore the present relevance of this problematic in ‘Dual Power Revisited: From Civil War to Biopolitical Islam’, *Soft Targets*, 2.1 (2006).

mysticism'¹⁶), communization theory, as a thoroughgoing theory of emancipation from capital's abstract domination, cannot do without some theory of power. What's more, unless we treat the capabilities of the state as themselves entirely subsumed by capital, something that seems unpersuasive given the different articulations of state(s) and capital(s) on the present scene, it would appear necessary to consider the relevance, for strategic purposes, and thus for the particular shape taken by communizing activity, of the distinction between economic and extra-economic coercion. The obstacles to communization may, for instance, take explicitly repressive or co-optive forms, just as the capital-relation reproduces itself through the gun, the ballot-box and the spectacle. If communization is to be more than a formalistic theory or a pure (which is to say metaphysical) activity, that is, if it is to translate into strategy, these differences will surely matter.

In the present panorama of anticapitalisms, communization theory stands out for the insistence with which it refuses the consolations of the enclave or the pieties of the alternative. In its high-on ascetic fixation on the abolition of the value-form as the *sine qua non* of communist theory and practice, it regards with (mostly warranted) suspicion the proliferation of positions which hold that we can struggle in the present in ways which prefigure a post-capitalist future. Among the analytical attractions of communization theory is the way in which it permits us to historicize and critique recent attempts, in the context of the widespread opposition to neoliberalism and globalization (terms which often substitute for, rather than specify, capitalism), to envisage immanent alternatives to capitalism. Unwittingly, such positions – advocacies of global transitional demands like the Tobin Tax or efforts to create liberated zones, temporary or otherwise – place themselves within, and are limited by, the reproduction of the class-relation, whether they disavow the very notion of class (struggle) or not. Such 'radical

¹⁶ 'The immediate economic element (crises, etc.) is seen as the field artillery which in war opens a breach in the enemy's defences – a breach sufficient for one's own troops to rush in and obtain a definitive (strategic) victory, or at least an important victory in the context of the strategic line. Naturally the effects of immediate economic factors in historical science are held to be far more complex than the effects of heavy artillery in a war of maneuver, since they are conceived of as having a double effect: 1. they breach the enemy's defences, after throwing him into disarray and causing him to lose faith in himself, his forces, and his future; 2. in a flash they organize one's own troops and create the necessary cadres – or at least in a flash they put the existing cadres (formed, until that moment, by the general historical process) in positions which enable them to encadre one's scattered forces; 3. in a flash they bring about the necessary ideological concentration on the common objective to be achieved. This view was a form of iron economic determinism, with the aggravating factor that it was conceived of as operating with lightning speed in time and in space. It was thus out and out historical mysticism, the awaiting of a sort of miraculous illumination.' Antonio Gramsci, *Selections from the Prison Notebooks* (London: Lawrence & Wishart, 1971), 487.

democratisms' can be faulted for regarding the saving of capitalism from itself as the only path to emancipation, an emancipation that turns out to require the perpetuation of the fundamental framework of exploitation.¹⁷

It is to the credit of communization theorists like TC that they do not advocate, on the basis of their critiques of *theories* of reform, alternative, or transition, a withdrawal from the concrete forms that present struggles take, including those which, inevitably, have as their stakes the defense of certain forms of reproduction (the welfare state). But remarking the limit of contemporary conceptions of alternatives to capitalism cannot exempt a theory of communism from thinking through how to foster and fashion those capacities that would make the disarticulation of capitalist relations and the establishment of communist ones possible. Aside from functioning as an antidote to the inertia of means that make emancipatory ends recede into a distant horizon, the strength of the prefigurative conception of communism¹⁸ is to pose the problem of how in (capitalist) social relations as they now exist, one can experiment and prepare the tools for its overcoming. Such prefiguration (for instance, to take a very minor but pertinent case, in the internal functioning of a theoretical group) need not conceive itself as a 'liberated zone', but could be advanced as the inevitably truncated, imperfect and embryonic testing out of certain practices, whose role in future struggles may be undefined, but which at the very least begins to explore the creation of collective organs of opposition.

The fact that communization theory treats the overcoming of instrumentality only in the struggle itself – in the guise of communizing measures inseparable from communist aims – leads to a strangely empty formalism, which tells us next to nothing about the forms that the negation of capitalist relations could take, as if not-capitalism and communism were synonymous. The positing that real subsumption has put a labor without reserves at last into the position where self-abolition is the only object – a positing illustrated by a tendentious sampling of 'pure' negations (riots, strikes without demands, etc.), treating any resurgences of 'traditional' organizations of the workers' movement as merely residual – translates into the view that nothing needs to be done to *prepare* the kind of subjects that might take communizing action. The realization that dogged many a twentieth-century communist theorist – to wit, that capital is based not just on a social form, but on deeply sedimented, somatized and interiorized habits and reflexes – is ignored in the bleakly optimistic view that all will be resolved in the struggle,

¹⁷ For these arguments, see Roland Simon, *Le Démocratisme radical* (Paris: Éditions Senonevero, 2001).

¹⁸ See for example Carl Boggs, 'Marxism, Prefigurative Communism, and the Problem of Workers' Control', *Radical America* 11.6 (1977) and 12.1 (1978).

and not before, by the cascading and contagious negation of all instances of the capital-relation. Whatever our historical judgment on them may be, I would submit instead that the problem of building a proletarian capacity before a revolutionary moment, posed most comprehensively by Gramsci,¹⁹ or that of building a communist culture, which occupied militants, theorists and artists in the immediate wake of the Bolshevik revolution, remain with us as problems. The mutation or collapse of a working-class identity in its nineteenth and twentieth-century guises only renders this question of experimenting with non-capitalist forms of life (without reifying them into quickly atrophied ‘free zones’) more urgent. And even if we shy away from the capital-pessimism that would see total commodification triumphant, we can nevertheless readily admit that not just labor, but also much of our everyday life has been subsumed by capital in a way that puts many a complex obstacle in the way of building up the capacity and the intelligence to negate it.

To have forcefully emphasized and rigorously investigated two indispensable elements of communist theory – the character of capitalism as a system of abstract domination based on the value-form and the vision of communism as the revolutionary self-abolition of the proletariat – is a great credit to communization theory. That it has tried to think these elements in their unity, and to do so with an attention to the present possibilities of emancipation, as well as its historical trajectory, makes it a position worth engaging with for anyone preoccupied with the question of communism as a contemporary one. But the stringency of its critiques of the communist tradition has not translated into a reflexive investigation of the consequences attendant on abandoning any concept of transition, and of the kinds of strategy and forms of political organization that may be up to the task of a contemporary transition. No more than similar professions of faith in the party or the productive forces from other quarters, the exegete’s mantra that communism is nothing but the movement of the abolition of the status quo should not be taken as a license to ignore the *whom* and *how* of any revolutionary process, laying all trust in a kind of learning-by-doing that seems wantonly indifferent to the gargantuan obstacles in the way of negating capital. In social, economic and political spaces amply subsumed by the value-form you can’t make it up as you go along. The path is not made by walking it, but will require some pretty detailed surveying of political forces, weak points, and perhaps most significantly, a sustained reflection how to turn the accreted dead labor of humanity into a resource for

¹⁹ See Peter Thomas’s excellent *The Gramscian Moment: Philosophy, Hegemony and Marxism* (Leiden: Brill, 2009).

living labor, even as it abolishes itself *qua* labor.²⁰ It is a methodological error to presume that the real abstraction that can be registered at the level of a history of subsumption trumps the concrete uses of spatial and material differences by capital (and labor), and that we can directly translate value theory into a diagnosis of the present.

Even if we accept a variant of the real subsumption thesis, this will never mean the real obsolescence of the unevennesses, differences and mediations which make it possible for capitalism to function. The triumph of value is not the death of politics, or the extinction of strategy. Reversing the valence of a term from Whitehead, we could speak with respect of communization theory of a fallacy of misplaced abstraction, which takes the intensification and extension of the capital-relation as eliminating, rather than refunctioning, politics. The obverse of this anti-strategic treatment of capitalist abstraction is the conception of communization as the immediate (in both senses of the term) negation of capitalism. But the homogenizing characterization of capitalism's social abstraction, and the treatment of its further mediations (ideology, political forms, class fractions) as of little moment, means that the negation proposed by communization theory is poor in determinations.

This appears to derive from two main factors. The first is the hopeful conviction, already alluded to in regard to the problem of strategy, that such determinations will simply arise in the collective processes of abolishing the value-form. I can see no reason to have such confidence, especially in light of the formidable organizational and logistical difficulties that face any attempt to undo the ubiquitous identification of social existence and capitalist mediation – not to mention the often catastrophic challenges previously confronted by really-existing communisms. The second factor is the entirely untenable notion that communism involves 'direct social relations'. As authors from Fourier to Harvey have suggested, it makes much more sense to conceive a non-capitalist future as one that will involve infinitely more varied and more complex forms of social mediation, forms for which the refunctioning of many (though definitely not all) of the devices which permit the reproduction of capital will be necessary. If the world we inhabit is one that has been thoroughly shaped by the history of capital (and of class struggle), it stands to reason that simple negation – with its tendency to facile fantasies of communism rising like a phoenix from the ashes of anomie and the thorough collapse of social reproduction – is no proposal at all. In a world where no object or relation is untouched by capital, the logistical, strategic and political question is in many ways what

²⁰ On a purely theoretical rather than strategic plane, see the stimulating reflections on the uses of dead labor in Moishe Postone, *Time, Labor and Social Domination: A reinterpretation of Marx's critical theory* (Cambridge: Cambridge University Press, 1993), 361.

will require abolishing, and what converting, or, in a more dialectical vein, what is to be negated without remainder and what sublated. If real subsumption is second nature, and New York City a natural fact,²¹ then a communizing movement will need to experiment with how to transform a world in which relations of exploitation and domination are present all the way down. It will need to dominate domination with the aim of non-domination. This is a problem at once material – a question of buildings, chemicals, ports, power-grids, train-lines, pharmaceuticals, and so on and so forth – and of necessity temporal.

How can we redeem and redirect our dead labors? How can we control the very systems that control us, without allowing their deeply embedded capitalist and dominative potentialities to assert themselves? Negation alone is not going to do the job. And a refusal of the sober realism that accepts the necessary alienation²² and inevitable hierarchy of certain systems, as well as the inevitable continuation of capitalist forms in post-capitalist futures,²³ will simply return communism to the melancholy domain of the idea or the enclave. The problem of transition will not go away by fiat. The question is not *whether* communism requires a thinking of transition, but *which* transition, or transitions, have any chance in the present. 🏹

²¹ 'The proper management of constituted environments ... may therefore require transitional political institutions, hierarchies of power relations, and systems of governance that could well be anathema to both ecologists and socialists alike. This is so because, in a fundamental sense, there is nothing unnatural about New York city and sustaining such an ecosystem even in transition entails an inevitable compromise with the forms of social organization and social relations which produced it'. David Harvey, *Justice, Nature and the Geography of Difference* (Oxford: Blackwell, 1996), 186. See also Harvey's important recent intervention, 'Organizing for the Anticapitalist Transition', *Interface: a journal for and about social movements*, 2 (1): 243 - 261 (May 2010), interfacejournal.nuim.ie/wordpress/wp-content/uploads/2010/11/Interface-2-1-pp243-261-Harvey.pdf.

²² I speak of necessary alienation (or necessary separation) by analogy with Marcuse's distinction between necessary and surplus repression in *Eros and Civilization*.

²³ I've discussed this in terms of the question of equality, and commensuration through value, in 'The Politics of Abstraction: Communism and Philosophy', in Costas Douzinas and Slavoj Žižek (eds.), *The Idea of Communism* (London: Verso, 2010). The key textual references are Marx's 'Critique of the Gotha Programme' and Lenin's gloss on it in *State and Revolution*.

L o g i s t i c s a n d

© p p o s i t i o n

A l b e r t o
T o s c a n o

The Spontaneous Philosophy of Interruption

It is rare, in contemporary oppositional thought, to encounter the totalising temporal imaginary of revolution that so marked the visions and strategies of the modern left. When it hasn't been victim to melancholy retreats from the teleology of emancipation, that encompassing horizon of social change and political action has come under attack, alongside the very idea of transition, for domesticating antagonism. Interstitial enclaves or temporary liberated zones, ornamented by discourses of withdrawal and difference, have widely replaced the reference to an advancing, unifying and largely homogeneous planetary movement of liberation. The space-time of much of today's anti-capitalism is one of subtraction and interruption, not attack and expansion.

Needless to say, any negation of the status quo brings with it spatial separation and temporal disruption, but the contemporary ideology, or spontaneous philosophy, of interruption appears – perhaps as a testament to the claustrophobia of our present – to make something of a fetish out of rupture. This cuts across theory and activism, laying bare a shared structure of feeling between the political metaphysics of events or 'dissensus' and the everyday tactics of struggles. Foregrounding interruption implies a particular understanding of the nature of contemporary capital, the capabilities of antagonism and the temporality (or lack thereof) of transformation.

The Coming Insurrection formulates, in a compellingly abrasive way, a widespread conviction that contemporary struggles against capital have shifted from the point of production to those of circulation, distribution, transport and consumption. In other words, that arresting the flow of this homogenised society is a *conditio sine qua non* for the irruption of non-capitalist forms-of-life:

The technical infrastructure of the metropolis is vulnerable. Its flows amount to more than the transportation of people and commodities. Information and energy circulate via wire networks, fibres and channels, and these can be attacked. Nowadays sabotaging the social machine with any real effect involves

reappropriating and reinventing the ways of interrupting its networks. How can a TGV line or an electrical network be rendered useless?¹

Behind this statement lies an anti-urbanism that regards contemporary spectacular exploitation and conformity as products of the capillary management of everyday life. Cities are stripped of any life not mobilised for the commodity and pre-empted from any behaviour at odds with a tautological drive for systemic reproduction:

The metropolis is not just this urban pile-up, this final collision between city and country. It is also a flow of being and things, a current that runs through fiber-optic networks, through high-speed train lines, satellites, and video surveillance cameras, making sure that this world keeps running straight to its ruin. It is a current that would like to drag everything along in its hopeless mobility, to mobilize each and every one of us.²

The interruption or sabotage of the infrastructure of mobilisation are the other side of *The Coming Insurrection's* conception of communes not as enclaves for beautiful souls, but as experiences through which to develop the collective organs to both foster and endure the crisis of present, and to do so in a fashion that does not sever means from ends. The book's catastrophic optimism lies in advocating that interruption is somehow generative of anti-capitalist collectivity (rather than passing irritation or mass reaction). It is also founded on a repudiation of the inauthenticity of massively mediated, separated and atomised lives in the metropolis.

There are inadvertent echoes of Jane Jacobs in the scorn against 'indifferent' modern housing and the idea that with 'the proliferation of means of movement and communication, and with the lure of always being elsewhere, we are continuously torn from the *here and now*'.³ Real communities that do not rest on the atrophying of bodies into legal identities and commodified habits are to emerge out of the sabotaging of *all* the dominant forms of social reproduction, in particular the ones that administer the ubiquitous mobilisation of 'human resources'. Materialism and strategy are obviated by an anti-programmatic assertion of the ethical, which appears to repudiate the pressing critical and realist question of how the structures and flows that separate us from our

¹ The Invisible Committee, *The Coming Insurrection*, Los Angeles: Semiotext(e), 2009, 111–12. These reflections prolong those initially spurred by the so-called Tarnac affair, which saw this anonymous argument for sabotage transformed into the flimsy basis for a prosecutorial campaign at once vicious and spurious. See my 'The War Against Pre-Terrorism', *Radical Philosophy*, issue 154, 2009, 2-7, www.radicalphilosophy.com/commentary/the-war-against-pre-terrorism.

² *The Coming Insurrection*, 58-9.

³ *Ibid.*, 59.

capacities for collective action could be turned to different ends, rather than merely brought to a halt.

The spatial vocabulary articulated in *The Coming Insurrection* is, to employ a well worn dichotomy, not one of revolution but one of revolt. This spatial distinction between negations of the status quo was beautifully traced through the relationship between Rimbaud and the Paris Commune by the Italian critic Furio Jesi. Jesi begins with the evident temporal distinction between revolution conceived in terms of the conscious concatenation of long- and short-term actions aimed at systemic transformation in historical time and revolt as a suspension of historical time. Revolt is not the building up but the revelation of a collectivity. It is, to borrow from André Malraux's *Hope*, an organised apocalypse.

In this abrogation of the ordered rhythms of individual life, with its incessant sequence of personal battles, revolt generates 'a shelter from historical time in which an entire collectivity finds refuge'.⁴ But the interruption of historical time is also the circumscription of a certain a- or anti-historical space, a space torn from its functional coordinates:

Until a moment before the clash [...] the potential rebel lives in his house or his refuge, often with his relatives; and as much as that residence and that environment may be provisional, precarious, conditioned by the imminent revolt, until the revolt begins they are the site of an individual battle, more or less solitary. [...] You can love a city, you can recognise its houses and its streets in your most remote and secret memories; but only in the hour of revolt is the city really felt like an *haut-lieu* [a high place] and at the same time your own city: your own because it belongs to you but at the same time also to others; your own because it is a battlefield you and the collectivity have chosen; your own, because it is a circumscribed space in which historical time is suspended and in which every act has its own value, in its immediate consequences.⁵

The collective experience of time, and of what Jesi calls symbols (such that the present adversary simply becomes *the enemy*, the club in my hand *the weapon*, *victory the just act*, and so on), means that the revolt is an action for action's sake, an end (as in The Invisible Committee's reflections on the ethics of sabotage and the commune) inseparable from its means.

It was a matter of acting once and for all, and the fruit of the action was contained in the action itself. Every decisive choice, every irrevocable action, meant being

⁴ Furio Jesi, *Lettura del 'Bateau ivre' di Rimbaud* (1972), Macerata: Quodlibet, 1996, 22.

⁵ Ibid., 23–4.

in accordance with time; every hesitation, to be out of time. When everything came to an end, some of the true protagonists had left the stage forever.⁶

Abiding with the interruptive paradigm of an intransitive and intransigent revolt, we can wonder whether, and if so to what extent, the historical space that revolt intervenes in inflects its character. It is no accident that the kind of sabotage envisioned in *The Coming Insurrection* is on lines and nodes of circulation, and not on the machinery of production itself.

The Triumph of Processing

The centrality to an intensely urbanised capital of the efficient, profitable, ceaseless and standardised movement of material and information – the very target of *The Coming Insurrection*'s ethics of interruption – has been noted for a long time. Fifty years ago, Lewis Mumford, writing in *The City in History* of the catastrophic propensities of the contemporary metropolis – what he elegantly called 'the aimless giantism of the whole' – pointed to the pivotal role of the growing possibilities of supply to the 'insensate agglomeration of populations' in exponentially expanding cities, and their relations to the 'tentacular bureaucracies' that controlled such flows of goods.

During the 19th century, as populations heaped further into a few great centres, they were forced to rely more fully on distant sources of supply: to widen the basis of supplies and to protect the 'life-line' that connects the source with the voracious mouth of the metropolis, became the function of army and navy. In so far as the metropolis, by fair means or foul, is able to control distant sources of food and raw materials, the growth of the capital can proceed indefinitely.⁷

The organisational and energetic resources required to reproduce the metropolis are formidable: 'like Alice's red queen, by great exertion and utmost speed the metropolis barely manages to remain in the same position.'⁸ The metropolis has the intensification and expansion of supply lines as its precondition, and logistics becomes its primary concern, its foremost product, and the basic determinant of its power:

The metropolis is in fact a processing centre, in which a vast variety of goods, material and spiritual, is mechanically sorted and reduced to a limited number of standardized articles, uniformly packaged, and distributed through controlled

⁶ Ibid., 24.

⁷ Lewis Mumford, *The City in History*, New York: Harcourt, 1961, 539.

⁸ Ibid., 540.

channels to their destination, bearing the approved metropolitan label. 'Processing' has now become the chief form of metropolitan control.⁹

Despite his systemic objections to the catastrophic ends of this amorphous machine for (capital) accumulation, Mumford also regards these control capabilities as potentially reconfigurable in a multi-centred and organic society. But, especially when it comes to the informational requirements attendant on such control-by-processing, manifest in the metastasis of a tentacular bureaucracy, he too is tempted by the possibilities of insurgent interruption – even recalling an anarchist slogan (*'Incinerate the documents!'*) to stress the ease with which such a system, founded on the circulation of real or virtual 'paper', could be ground to a halt.

But it is also possible, and indeed necessary, to think of logistics not just as the site of interruption, but as the stake of enduring and articulated struggles. Here there remains much to digest and learn from in the ongoing research of labour theorist and historian Sergio Bologna, an editor in the 1970s of the journal *Primo Maggio*, which carried out seminal inquiries into containerisation and the struggles of port workers.¹⁰ Countering those 'post-workerists' who have equated post-Fordism with the rise of the cognitive and the immaterial (and basically with the ubiquity of a figure of work patently traced on that of the academic or 'culture worker'), Bologna notes that the key networks that condition contemporary capitalism are neither affective nor simply digital, but involve instead the massive expansion and constant innovation in the very material domain of logistics – in particular of 'supply chain management', conceived of in terms of the speed, flexibility, control, capillary character and global coverage of the stocking, transport and circulation of services and commodities.¹¹

⁹ Ibid., 541–2.

¹⁰ For an excellent introduction to the work of Bologna and *Primo Maggio* in English, which stresses the way in which it both prolonged and challenged operaismo through a historiographic lens, see Steve Wright, *Storming Heaven: Class Composition and Struggle in Italian Autonomist Marxism*, London: Pluto, 2002, chapter 8: 'The Historiography of the Mass Worker'. The full collection of *Primo Maggio* is now available as a CD-ROM in *La rivista Primo Maggio (1973-1989)*, Cesare Bermani (Ed.), Rome: DeriveApprodi, 2010.

¹¹ For an incisive and informed treatment of the logistics revolution and the challenge it poses to workerist and autonomist perceptions of class struggle, see Brian Ashton, 'The Factory Without Walls', *Mute*, www.metamute.org/en/Factory-Without-Walls. Ashton underscores the link between any future resurgence of oppositional anti-capitalist organising and knowledge of capital's composition and operation – the cognitive mapping of supply chains, value extraction and the levers of struggle.

Bologna underscores the military origins of logistics, namely in the work of de Jomine, a Swiss military theoretician working first under Napoleon and then under the Russian Tsar Alexander I. The 'original function of logistics', writes Bologna,

was to organise the supplying of troops in movement through a hostile territory. Logistics is not sedentary, since it is the art of optimizing flows [...] So logistics must not only be able to know how to make food, medicines, weapons, materials, fuel and correspondence reach an army in movement, but it must also know where to stock them, in what quantities, where to distribute the storage sites, how to evacuate them when needed; it must know how to transport all of this stuff and in what quantity so that it is sufficient to satisfy the requirements but not so much as to weigh down the movement of troops, and it must know how to do this for land, sea and air forces.¹²

He goes on to analyse how the problems of logistics have been central to the ongoing transformations of contemporary capitalism, from the just-in-time organisation of production of 'Toyotism', to the world-transforming effects of containerisation (itself accelerated by its military-logistical use in the Vietnam War).¹³ The homogenisation registered at an existential level by *The Coming Insurrection* is here given a very prosaic but momentous form in the standardisation and modularisation that characterises a planetary logistics which, in order to maintain the smoothness and flexibility of flows, must abstract out any differences that would lead to excessive friction and inertia.

For my purposes, however, what is paramount is what this logistical view of post-Fordism tells us about the character of antagonism, and specifically of class struggle. Narcissistically mesmerised by hackers, interns and precarious academics, radical theorists of post-Fordism have ignored what Bologna calls 'the multitude of globalisation', that is all of those who work across the supply chain, in the manual and intellectual labour that makes highly complex integrated transnational systems of warehousing, transport and control possible. In this 'second geography' of logistical spaces, we also encounter the greatest 'criticality' of the system – though not, as in the proclamations of *The Coming Insurrection*, in the isolated and ephemeral act of sabotage, but in a working class which retains the residual power of interrupting the productive cycle – a power that offshoring, outsourcing, and downsizing has in many respects stripped from the majority of 'productive' workers themselves.

¹² Sergio Bologna, 'L'undicesima tesi', in *Ceti medi senza futuro? Scritti, appunti sul lavoro e altro*, Rome: DeriveApprodi, 2007, 84.

¹³ See Marc Levinson, *The Box: How the Shipping Container Made the World Smaller and the World Economy Bigger*, Princeton: Princeton University Press, 2008, chapter 9.

Here it is possible to link the question of logistics quite closely to that of the management of labour and the neutralisation of class struggle, in a way that sheds some doubt on the ‘criticality’ identified by Bologna. The expulsion of a mass labour force from containerised ports, their physical separation from zones of urbanisation and connection to other labourers, as well as the deeply divisive labour regulations that divide an international maritime labour force are an important instance of this. As Tim Mitchell writes in his fine essay on energy and the spatial history of class struggle, ‘Carbon Democracy’:

Compared to carrying coal by rail, moving oil by sea eliminated the labour of coal-heavers and stokers, and thus the power of organized workers to withdraw their labour from a critical point in the energy system [...] [W]hereas the movement of coal tended to follow dendritic networks, with branches at each end but a single main channel, creating potential choke points at several junctures, oil flowed along networks that often had the properties of a grid, like an electrical grid, where there is more than one possible path and the flow of energy can switch to avoid blockages or overcome breakdowns.¹⁴

Refunctioning the Spaces of Capital

The electrical grid provides an apt transition to reflecting on the relationship between the logistics of capital and the spatial politics of anti-capitalism in a manner that does not merely involve the bare negation or mere sabotage of the former by the latter. The power grid (contrasted with the railway network) was in fact a system whose capabilities for coordinated decentralisation were emphasised by Mumford as a necessary model for a shift out of an aimlessly urbanising capitalism. Following Mumford, a number of Marxist theorists have of late reflected – in a mode that, to borrow a recent quip from David Harvey, we could call *pre-communist* rather than post-modern – on what aspects of contemporary capitalism could be refunctioned in the passage to a communist society. Obversely to *The Coming Insurrection*, they have asked how could a high-speed rail system or an electrical network be rendered not useless, but *useful* – in what would clearly need to be a thoroughly redefined conception of use, one not mediated and dominated by the abstract compulsions of value and exchange.

It is striking that many of these authors have put logistical questions at the forefront of these thought experiments, almost as though logistics were capitalism's *pharmakon*, the cause for its pathologies (from the damaging hypertrophy of long-distance transport of commodities to the aimless sprawl of contemporary conurbation) as well as the

¹⁴ Timothy Mitchell, ‘Carbon Democracy’, *Economy & Society* 38.3, 2009, 407.

potential domain of anti-capitalist solutions. In this vein, Fredric Jameson has recently, and somewhat perversely, identified the distribution systems of Wal-Mart, the very emblem of capitalism's seemingly inexhaustible capacity for devastating mediocrity, as precisely one of those aspects of capitalism whose dialectical refunctioning, or whose change of valence, could give a determinate character to our social utopias.¹⁵

The ambivalence of logistics, and particularly of the environmental consequences of the unprecedented logistical and energetic complexes that make contemporary megalopolises both the drivers and the possible sites for a response to catastrophic climate change (among other processes) have led Mike Davis, in his appropriately titled 'Who Will Build the Ark?', to demand that, recalling the great experiments in urbanism of the USSR in the 1920s, we begin to look for the potentialities for a non-capitalist and non-catastrophic future in cities themselves.¹⁶ In particular, Davis has advanced, to borrow from Mitchell, some of the parameters of a low-carbon democratic socialism. Arguing, contrary to the Malthusianism of much of the green movement that it is 'the

¹⁵ Fredric Jameson, 'Utopia as Replication', in *Valences of the Dialectic*, London: Verso, 2009, 420–434.

¹⁶ An interrogation of the logistical dimensions of transition, state building and class struggle in the USSR would need to take its cue from chapter four of Robert Linhart's arresting study of the conjunctural and contradictory character of Lenin's thought and politics post-1917, *Lénine, les paysans*, Taylor, re-edited by Seuil in 2010 – a book quite unique in its combination of a real appreciation of Lenin with a welcome rejection of the comforting apologias of Leninism. This chapter, entitled 'The railways: the emergence of the Soviet ideology of the labour-process', details how, in the context of the famine, the authoritarian Taylorist turn in the organisation of work was driven through in that sector which provided the vital hinge between production, services and administration, and whose critical disorganisation was exacerbated by the very autonomous workers' organisation that had previously made it into a hub of anti-Tsarist organising, and now appeared as a kind of economic blackmail all the more menacing in that it took place within the crisis of the civil war. The Bolsheviks, he notes, were 'almost instinctively attentive to everything that concerns communication, flow, circuits' (151). In this moment, the railways appeared as the nerve fibres and life blood of a 'state in movement', and militarised centralisation, planning and labour discipline as imperatives – as evidenced, among others, by Trotsky's 'order 1042', viewed by Linhart as the first key instance of state planning. After all, 'if there is an activity that must, by nature, function as a *single mechanism*, one that is perfectly regulated, standardised and unified throughout the country, it's the railway system' (162). The seemingly inevitable Taylorisation of the railways both forges and deforms the USSR, especially in furthering the split, thematised by Linhart, between the proletarian as political subject and as object of iron discipline. Among the more interesting sites of the necessary fixation on logistics (namely, on railways and electrification) are the films of Dziga Vertov, which promise a cognitive mapping that would join the Taylorist decomposition of labour, imaged as 'a regular, uninterrupted flow of communication', and its subjective mastery, in which the 'transparency of the productive process' (169) is provided to each worker in the guise of an all encompassing vision.

priority given to public affluence over private wealth' that can set the standard for a conversion of engines of doom into resources of hope.

As Davis writes:

Most contemporary cities repress the potential environmental efficiencies inherent in human-settlement density. The ecological genius of the city remains a vast, largely hidden power. But there is no planetary shortage of 'carrying capacity' if we are willing to make democratic public space, rather than modular, private consumption, the engine of sustainable equality.¹⁷


Such an assertion of the necessity of a drastic transition, as against plural but ineffectual interruptions, takes logistic and energetic dimensions of anti-capitalist struggle more seriously than the convergence of anti-urbanist visions of space and epiphanic models of revolt that – for evident and in many respects sacrosanct historical and political reasons – have come to dominate much anti-capitalist thought.¹⁸ It also does so by recognising what, by analogy with Herbert Marcuse, we could call the *necessary alienation* involved in complex social systems, including post-capitalist ones. As David Harvey has noted, against the grain of fantasies of a tabula rasa, unmediated communism or anarchism:

The proper management of constituted environments (and in this I include their long-term socialistic or ecological transformation into something completely different) may therefore require transitional political institutions, hierarchies of power relations, and systems of governance that could well be anathema to both ecologists and socialists alike. This is so because, in a fundamental sense, there is nothing unnatural about New York city and sustaining such an ecosystem even in transition entails an inevitable compromise with the forms of social organization and social relations which produced it.¹⁹

¹⁷ Mike Davis, 'Who Will Build the Ark?', *New Left Review* 11/61 (2010), 43.

¹⁸ For a transitional proposal or 'determinate negation of the existent' that stakes some of the same ground as Davis and Harvey, albeit from a different Marxian vantage, see Loren Goldner, 'Fictitious Capital and the Transition Out of Capitalism', home.earthlink.net/~lrgoldner/program.html. In his inventory of transitional negations and the refunctioning of 'total existing means of production and labour power', now grasped as 'use values', Goldner advocates the 'integration of industrial and agricultural production, and the breakup of megalopolitan concentration of population. This implies the abolition of suburbia and exurbia, and radical transformation of cities. The implications of this for energy consumption are profound'. In a logistical vein, he proposes the 'centralization of everything that must be centralized (e.g. use of world resources) and decentralization [of] everything that can be decentralized (e.g. control of labour process within the general framework)'.

¹⁹ David Harvey, *Justice, Nature and the Geography of Difference*, Oxford: Blackwell, 1996, 186.

The question of what use can be drawn from the dead labours which crowd the earth's crust in a world no longer dominated by value proves to be a much more radical question, and a much more determinate negation than that of how to render the metropolis, and thus in the end ourselves, useless. 

Logistics, Counterlogistics and the Communist Prospect

J a s p e r
B e r n e s

What is theory for? What good is it, in the fight against capital and state? For much of the left, the Marxist left in particular, the answer is obvious: theory tells us what to do, or *what is to be done*, in the strangely passive formula often used here. Theory is the pedagogue of practice. Thus, the essential link between Comrade Lenin and his putative enemy, the Renegade Kautsky, the master thinkers of the Third and Second Internationals: despite their storied disagreements, both believed that without the special, scientific knowledge dispensed by intellectuals and dedicated revolutionaries, the working class was doomed to a degraded consciousness, incapable of making revolution or, at any rate, making it successfully. The task of theory, therefore, is to weaponise proletarian consciousness, to turn it toward right action. This didactic view of theory extends across the entire range of Marxist intellectual work in the 20th century, from the comparatively crude Bolshevik programmatic of Lenin and Trotsky to the sophisticated variants offered by Antonio Gramsci and Louis Althusser.

There are other, non-didactic theories of theory, however. We might look, for instance, to Marx's own very early reflection on such matters. There is no need to play teacher to the working class, Marx tells his friend Arnold Ruge: "We shall not say, Abandon your struggles, they are mere folly; let us provide you with the true campaign-slogans. Instead we shall simply show the world why it is struggling, and consciousness of this is a thing it will acquire whether it wishes or not."¹ The final turn in this formulation is crucial, since it implies that the knowledge theory provides already abounds in the world; theory simply reflects, synthesizes and perhaps accelerates the "self-clarification...of the struggles and wishes of an age". Theory is a moment in the self-education of the proletariat, whose curriculum involves inflammatory pamphlets and beer-hall oratory as much as barricades and streetfighting.

¹ Karl Marx, 'Letter to Arnold Ruge', September 1843 (*MECW* 3), 144.

In this regard, theory is more a map than a set of directions: a survey of the terrain in which we find ourselves, a way of getting our bearings in advance of any risky course of action. I am thinking here of Fredric Jameson's essay on the "cultural logic of late capitalism", and his call for "cognitive maps" that can orient us within the new spaces of the postindustrial world. Though Jameson must surely count as an exponent of the pedagogical view of theory — calling for cognitive maps by way of a defense of didacticism in art — part of the appeal of this essay is the way his call for maps emerges from a vividly narrated disorientation, from a phenomenology of the bewildered and lost. Describing the involuted voids of the Bonaventure hotel, Jameson situates the reader within a spatial allegory for the abstract structures of late capitalism and the "incapacity of our minds...to map the great global multinational and decentered communication network in which we find ourselves caught as individual subjects".² Theory is a map produced by the lost themselves, offering us the difficult view from within rather than the clarity of the Olympian view from above.

Languishing in the shadow of its dominant counterpart, antididactic theory has often remained a bitter inversion of the intellectualist presumptions of the Leninist or Gramscian view. Whereas the didactic view tells us that revolution fails for lack of theory, or for lack of the right theory — fails because the correct consciousness was not cultivated — the communist ultra-left that inherits the antididactic view offers instead a theory of intellectual betrayal, a theory of militant theory as the corruption of the organic intelligence of the working class.³ The role of theorists, then, is to prevent these corrupting interventions by intellectuals, in order to allow for the spontaneous self-organisation of the working class. As a consequence, the historical ultra-left, congealing in the wake of the failure of the revolutionary wave of the early 20th century and the victory of a distinctly counter-revolutionary Marxism, adopts a reflective and contemplative (if not fatalist) orientation to the unfolding of struggles, offering diagnosis at most but never any strategic reflection, lest it commit the cardinal sin of "intervention", playing the pedagogue to the masses. The result is a perversely unhappy consciousness who both knows better and yet, at the same time, feels that such knowing is at best useless and at worst harmful. This guilty self-consciousness plagues even those important theories — by Gilles Dauvé and *Théorie Communiste*, for instance — which emerge after 1968 as critiques of the historical ultra-left.

² Fredric Jameson, 'Postmodernism, or the Cultural Logic of Late Capitalism', *New Left Review* 146 (July-August 1984), 84.

³ See 'A History of Separation', *Endnotes 4* (October 2015) for a full exposition of the betrayal thematic within the ultraleft.

But if we really believe that theory emerges as part of the self-clarification of struggles, then there is no reason to fear intervention, or strategic thought. Any perspective militants and intellectuals might bring to a struggle is either already represented within it or, on the contrary, capable of being confronted as one of many obstacles and impasses antagonists encounter in their self-education. Strategic thought is not external to struggles, but native to them, and every set of victories or failures opens up new strategic prospects — possible futures — which must be examined and whose effects in the present can be accounted for. In describing these prospects, theory inevitably takes sides among them. This is not to issue orders to struggles, but to be ordered by them.

Theory From the Ground

The following essay is an experiment in theory writing. It attempts to render explicit the link between theory as it unfolds in the pages of communist journals and theory as it unfolds in the conduct of struggles, demonstrating how reflections about the restructuring of capitalism emerge as the consequence of particular moments of struggle. From these theoretical horizons, specific strategic prospects also emerge, and inasmuch as they are discussed on the ground and affect what happens there, we can only with great effort avoid them.

We can (and perhaps should) always ask of the theories we encounter, *Where are we? In response to which practical experience has this theory emerged?* In what follows we are, for the most part, in the port of Oakland, California, beneath the shadows of cyclopean gantry cranes and container ships, pacing around anxiously with the 20,000 other people who have entered the port in order to blockade it, as part of the so-called “General Strike” called for by Occupy Oakland on November 2, 2011. Every participant in the blockade that day surely had some intuitive sense of the port’s centrality to the northern Californian economy, and it is with this intuitive orientation that theory begins. If asked, they would tell you that a sizeable fraction of what they consumed originated overseas, got put onto ships, and passed through ports like Oakland’s en route to its final destination. As an interface between production and consumption, between the US and its overseas trading partners, between hundreds of thousands of workers and the various forms of circulating capital they engage, the quieted machinery of the port quickly became an emblem for the complex totality of capitalist production it seemed both to eclipse and to reveal.

For our blockaders, then, all manner of questions unfolded directly from their encounter with the space of the port and its machinery. How might we produce a map of the various companies — the flows of capital and labour — directly or indirectly affected

by a blockade of the port, by a blockade of particular terminals? Who sits at one remove? At two removes or three? Additionally, questions emerged about the relationship between the blockade tactic and the grievances of those who took part. Though organised in collaboration with the local section of the ILWU (the dockworker's union), in solidarity with the threatened workers in Longview, Washington, few people who came to the blockade knew anything about Longview. They were there in response to the police eviction of Occupy Oakland's camp and in solidarity with whatever they understood as the chief grievances of the Occupy movement. How, then, to characterise the relationship between the blockaders, many of whom were unemployed or marginally employed, and the highly organised port workers? Who was affected by such a blockade? What is the relationship between the blockade and the strike tactic? Once asked, these questions linked the moment of the blockade to related mobilisations: the *piqueteros* of the Argentine uprisings of the late 1990s and early 2000s, unemployed workers who, absent any other way of prosecuting their demands for government assistance, took to blockading roads in small, dispersed bands; the *piquets volants* of the 2010 French strikes against proposed changes in pension law, bands of dispersed picketers who supported blockades by workers but also engaged in their own blockades, independent of strike activity; the recent strikes by workers in IKEA's and Wal-Mart's supply chains; and everywhere, in the season of political tumult that follows on the crisis of 2008, a proliferation of the blockade and a waning of the strike as such (with the exception of the industrial "BRICS", where a renegade labour formation has initiated a new strike wave).

Logistics and Hydraulic Capitalism

These are not questions that belong solely to formal theory. They were debated immediately by those who participated in the blockade and who planned for a second blockade a month later.⁴ Some of these debates invoked the concept of "globalisation" to make sense of the increasing centrality of the port and international trade within capitalism, in an echo of the alter-globalisation movement of the early 2000s. But it has always been unclear what the term "globalisation" is supposed to mean, as marker for a new historical phase. Capitalism has been global from the very start, emerging from within the blood-soaked matrix of the mercantile expansion of the early modern period.

⁴ For an example, see 'Blockading the Port Is Only the First of Many Last Resorts' (bayofrage.com), a text that addresses many of the questions outlined above, and which was distributed within Occupy Oakland after the first blockade and before the second, multi-city blockade. In many regards, the essay here is a formalisation and refinement of a process of discussion, reflection and critique initiated by that text.

Later on, its factories and mills were fed by planetary flows of raw material, and produce for a market which is likewise international. The real question, then, is what kind of globalisation we have today. What is the *differentia specifica* of today's globalisation? What is the precise relationship between production and circulation?

Today's supply chains are distinguished not just by their planetary extension and incredible speed but by their direct integration of manufacture and retail, their harmonisation of the rhythms of production and consumption. Since the 1980s, business writers have touted the value of "lean" and "flexible" production models, in which suppliers maintain the capacity to expand and contract production, as well as change the types of commodities produced, by relying on a network of subcontractors, temporary workers, and mutable organisational structures, adaptations that require precise control over the flow of goods and information between units.⁵ Originally associated with the Toyota Production System, and Japanese manufacturers in general, these corporate forms are now frequently identified with the loose moniker Just In Time (JIT), which refers in the specific sense to a form of inventory management and in general to a production philosophy in which firms aim to eliminate standing inventory (whether produced in-house or received from suppliers). Derived in part from the Japanese and in part from Anglo-American cybernetics, JIT is a circulationist production philosophy, oriented around a concept of "continuous flow" that views everything not in motion as a form of waste (*muda*), a drag on profits. JIT aims to submit all production to the condition of circulation, pushing its velocity as far toward the light-speed of information transmission as possible. From the perspective of our blockaders, this emphasis on the quick and continuous flow of commodities multiplies the power of the blockade. In the absence of standing inventories, a blockade of just a few days could effectively paralyse many manufacturers and retailers.⁶

⁵ 'Lean manufacturing' begins as a formalisation of the principles behind the Toyota Production System, seen during the 1980s as a solution to the ailments of American manufacturing firms. See James P. Womack et al., *The Machine That Changed the World* (Rawson Associates 1990). The concept of 'flexibility' emerges from debates in the late 1970s about the possibility of an alternate manufacturing system based on 'flexible specialisation' rather than Fordist economies of scale, a system thought to be enabled by highly-adjustable Computer Numerical Control (CNC) machines. Michael J. Piore and Charles F. Sabel, *The Second Industrial Divide: Possibilities For Prosperity* (Basic Books 1984).

⁶ Business writer Barry Lynn's *End of the Line* is devoted to demonstrating the dangerous fragility of today's distributed production system, where a 'breakdown anywhere increasingly means a breakdown everywhere, much in the way that a small perturbation in the electricity grid in Ohio tripped the great North American blackout of August 2003'. Barry C. Lynn, *End of the Line: The Rise and Coming Fall of the Global Corporation* (Doubleday 2005), 3.

In JIT systems, manufacturers must coordinate upstream suppliers with downstream buyers, so speed alone is insufficient. Timing is crucial. Through precise coordination, firms can invert the traditional buyer-seller relationship in which goods are first produced and then sold to a consumer. By replenishing goods at the exact moment they are sold, with no build-up of stocks along the way, JIT firms perform a weird sort of time-travel, making it seem as if they only make products that have already been sold to the end-consumer. As opposed to the older, “push production” model, in which factories generated massive stockpiles of goods that retailers would clear from the market with promotions and coupons, in today’s “pull” production system “retailers share POS [point-of-sale] information with their vendors who can then rapidly replenish the retailers’ stock”.⁷ This has led to the functional integration of suppliers and retailers, under terms in which the retailers often have the upper hand. Massive buyers like Wal-Mart reduce their suppliers to mere vassals, directly controlling product design and pricing while still retaining the flexibility to terminate a contract if needed. They gain the benefits of vertical integration without the liability that comes from formal ownership. Whereas in the early 1980s some thought that the emphasis on flexibility and dynamism would shift the balance of power from big, inflexible multinationals to small, agile firms, lean production has instead only meant a phase change rather than a weakening of the power of multinational firms. The new arrangement features what Bennett Harrison has called the “concentration without centralisation” of corporate authority.⁸

Lean manufacturing, flexibility, just-in-time inventory systems, “pull” production: each one of these innovations now forms a component part of the so-called “logistics revolution”, and the corresponding “logistics industry”, which consists of in-house and third-party specialists in supply-chain design and management. Enabled by the technical transformations of the shipping and transport industry, containerisation in particular, as well as the possibilities afforded by information and communications technology, logistics workers now coordinate different productive moments and circulatory flows across vast international distances, ensuring that the where and when of the commodity obtains to the precision and speed of data. Confirming the veracity of the oft-quoted passage from Marx’s *Grundrisse* about the tendential development of the world market, through logistics, capital “strives simultaneously for a greater extension of the market and for greater annihilation of space by time”.⁹ But logistics is more than the

⁷ Edna Bonacich and Jake B Wilson, *Getting the Goods: Ports, Labor, and the Logistics Revolution* (Cornell University Press 2008), 5.

⁸ Bennett Harrison, *Lean and Mean: The Changing Landscape of Corporate Power in the Age of Flexibility* (Guilford Press 1997), 8-12.

⁹ Marx, *Grundrisse* (MECW 28), 448 (Nicolaus trans.).

extension of the world market in space and the acceleration of commodital flows: it is the active power to coordinate and choreograph, the power to conjoin and split flows; to speed up and slow down; to change the type of commodity produced and its origin and destination point; and, finally, to collect and distribute knowledge about the production, movement and sale of commodities as they stream across the grid.

Logistics is a multivalent term. It names an industry in its own right, composed of firms that handle the administration of shipping and receiving for other corporations, as well as an activity that many businesses handle internally. But it also refers, metonymically, to a transformation of capitalist production overall: the “logistics revolution”. In this latter sense, logistics indexes the subordination of production to the conditions of circulation, the becoming-hegemonic of those aspects of the production process that involve circulation. In the idealised world-picture of logistics, manufacture is merely one moment in a continuous, Heraclitean flux; the factory dissolves into planetary flows, chopped up into modular, component processes which, separated by thousands of miles, combine and recombine according to the changing whims of capital. Logistics aims to transmute all fixed capital into circulating capital, the better to imitate and conform to the purest and most liquid of forms capital takes: money. This is impossible, of course, since the valorisation process requires fixed capital outlays at some point along the circuits of reproduction, and therefore someone somewhere will have to shoulder the risk that comes with investing in immobile plant and machinery. But logistics is about mitigating this risk, it is about transforming a mode of production into a mode of circulation, in which the frequencies and channel capacities of the circuits of capital are what matters. In this the logistics revolution conforms to the hydraulic conception of capitalism outlined by Deleuze and Guattari in the 1970s, in which surplus value results not so much from the irreversible transformation of worked matter but from the conjunction of one flow (money) with another (labour).¹⁰ In this account, influenced by Fernand Braudel’s description of the origins of capitalism, and its revision by world-systems theory, capital is nothing so much as the commander of flows, breaking and conjoining various currents in order to create a vast irrigation and drainage of social power. Logistics turns solids into liquids — or at its extreme, into electrical fields —

¹⁰ Gilles Deleuze and Felix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia* (University of Minnesota Press 1983), 227-228.

taking the movement of discrete elements and treating them as if they were oil in a pipeline, flowing continuously at precisely adjustable pressures.¹¹

The Use-Value of Logistics

So far our project of cognitive mapping has successfully situated our blockaders within a vast spatial horizon, a network of reticulated flows, against the backdrop of which even the gargantuan containerships, even the teeming thousands of blockaders, are mere flyspecks. But the picture we have given is without depth, without history; it is, in other words, a picture, and we might wonder whether some of the disorientation to which the concept of the cognitive map responds is aggravated by the spatial (and visual) approach. Perhaps “map” functions as metaphor more than anything else, referring to an elaboration of concepts and categories in both spatial and temporal dimensions. A map, but also a story, chart, and diagram, because once we adopt the view *from* somewhere, the view *for* somebody, we place ourselves between a past and a future, at the leading edge of a chain of causes that are as much in need of mapping as the spatial arrangement of the supply chain, especially if we want to have any sense of what might happen next.

In other words, we will want to know why capital turned to logistics. Why did capital reorganise in this manner? In pursuit of which advantages and in response to which impasses? One answer, hinted at above, is that logistics is a simple accelerator of commodity flows. Logistics is a method to decrease the turnover time of capital, and thereby raise total profits. Short turnover times and quick production cycles can produce very high total profits with even the very low rates of profit (per turnover) which capitalists encountered in the 1970s. Logistics was one solution, then, to “the long downturn” that emerged in the 1970s and the general crisis it ushered in, as opportunities for profit-taking through investment in the productive apparatus (in new plant and machinery) began to vanish. As we know from numerous accounts, one result is that capital flowed into financial assets, real estate, and the like, amplifying the velocity and bandwidth of the money supply and the credit market, and concocting novel forms of finance capital. But this well-documented process of financialisation had as its hidden counterpart a massive investment of capital in the complementary sphere of

¹¹ Braudel, notably, treats capitalism as the intervention onto a pre-existing plane of market transactions by powerful actors who are able to suspend the rules of fair play for their own benefit. Capital is, fundamentally, a manipulation of circulation and the flows of a market economy. Fernand Braudel, *The Wheels of Commerce*, (University of California Press 1992), 22.

commodity (rather than money) circulation, increasing the throughput of the transportation system and accelerating the velocity of commodity capital through a buildout in the form of tankers, port complexes, railyards, robotically-controlled distribution centers, and the digital and network technology needed to manage the increased volume and complexity of trade. The shipping container and the commodity future were thus complementary technical innovations, streamlining and supercharging different segments of the total circuit of reproduction. The ever-faster rotations of credit and commodities around the globe are mutually enabling relays. However, investment in these areas is not just about brute velocity; it also aims at reducing the associated costs of circulation and thereby increasing the total load of the transport systems. Alongside the obvious economies of scale and mechanisation afforded by container technology, integrated information systems vastly reduce the administrative costs associated with circulation, freeing up more money for direct investment in production.¹²

But these developments cannot be understood in terms of quantitative increase and decrease alone: increase in speed and volume of commodital flows, decrease in overhead. There is an important qualitative goal here as well, described by logistics as “agility”—that is, the power to change, as quickly as possible, the speed, location, origin and destination of products, as well as product type, in order to meet volatile market conditions. Corporations aim for “responsive supply chains”, as the chapter title of one popular logistics handbook has it, “such that [they] can respond in shorter time-frames both in terms of volume change and variety changes”.¹³ In their interventive role, logistics experts might seek to identify and remedy bottlenecks in order to maintain

¹² In Marxist value theory, circulation is often treated as an ‘unproductive’ sphere separate from the value-generating activities of the sphere of production. Because no surplus value can be added through ‘acts of buying or selling’, which involve only the ‘conversion of the same value from one form into another’, the costs associated with these activities (book-keeping, inventory, retailing, administration) are *faux frais* pure and simple, deductions from the total surplus value (Marx, *Capital vol. 2* [MECW 36], 133). However, Marx argues that certain activities associated with circulation – transport, in particular – are value-generating, for the persuasive reason that it would be inconsistent to treat the transport of coal from the bottom of the mine to the top as productive but its transport from the mine to a power plant as unproductive. Circulation, then, refers to two different processes that are conceptually distinct but in practice almost always intertwined. First, there is a metamorphosis in the form of the commodity, as commodities change into money and vice versa. This is ‘circulation’ not in actual space but in the ideal phase-space of the commodity-form. As Marx notes, ‘movable commodity values, such as cotton or pig iron, can remain in the same warehouse while they undergo dozens of circulation processes, and are bought and resold by speculators’. We need to distinguish this type of properly unproductive circulation – ‘where it is the property title to the thing and not the thing itself’ that moves – from the physical circulation of the object in space, which might be thought of as an extension of the value-generating activities of the productive sphere (ibid., 153).

¹³ Martin Christopher, *Logistics and Supply Chain Management* (FT Press 2011), 99.

agility. But as a matter of preventive design, specialists will strive to synchronise and distribute information across the entire supply chain so that suppliers can take appropriate action *before* intervention becomes necessary. This distributed information is referred to as a “virtual supply chain”, a chain of transmitted symbolic representations that flows opposite to the physical movement of commodities. Entirely separate firms might use distributed data of this sort to coordinate their activities. The result, as Bonacich and Wilson note, is that “competition ... shift[s] from the firm level to the supply chain level”.¹⁴ But transparency of data does not level the playing field at all; typically, one of the actors in the supply-chain network will retain dominance, without necessarily placing itself at the centre of operations — Wal-Mart, for instance, has insisted its suppliers place Radio Frequency Identification (RFID) tags on pallets and containers, allowing it to manage its inventory much more effectively, at considerable cost to the suppliers.¹⁵

Before we consider the final reason for the logistics revolution, a brief historical note is in order. Until WWII, the field of corporate or business logistics did not exist at all. Instead, logistics was a purely military affair, referring to the methods that armies used to provision themselves, moving supplies from the rear to the front line, a mundane but fundamental enterprise which military historians since Thucydides have acknowledged as a key determinant of the success of expeditionary wars. Business logistics as a distinct field evolved in the 1950s, building upon innovations in military logistics, and drawing upon the interchange of personnel between the military, industry and the academy so characteristic of the postwar period, interchanges superintended by the fields of cybernetics, information theory and operations research. The connection between military and corporate logistics remained intimate. For instance, though Malcolm McLean introduced stackable shipping containers in the 1950s, and had already managed to containerise some domestic transport lines, it was his Sea-Land Service’s container-based solution to the logistics crisis of the Vietnam War that generalised the technology and demonstrated its effectiveness for international trade.¹⁶ Likewise, RFID technology was first deployed by the US military in Iraq and Afghanistan, at which point Wal-Mart began exploring its use. Shortly afterwards, the Department of Defense and Wal-Mart issued mandates to their largest suppliers, requiring them to use RFID tags on their merchandise. The link between corporate logistics and military logistics is so strong that the many of Wal-Mart’s managers and

¹⁴ Bonacich and Wilson, *Getting the Goods*, 5.

¹⁵ Erick C. Jones and Christopher A. Chung, *RFID in Logistics* (CRC Press 2010), 87.

¹⁶ The story of Malcolm McLean and Sea-Land is narrated in Marc Levinson, *The Box* (Princeton 2010), 36-75, 171-178.

executives — who set the standard for the industry as a whole — come from the military.¹⁷

Logistics, we might say, is war by other means, war by means of trade. A war of supply chains that conquers new territories by suffusing them with capillarial distributions, ensuring that commodities flow with ease to the farthest extremities. From this martial perspective, we might usefully distinguish, however, between an offensive and a defensive logistics. The offensive forms we have already described above: logistics seeks to saturate markets, reduce costs and outproduce competitors, maintain maximum throughput and maximum product variety. In this offensive aspect, logistics emphasises flexibility, plasticity, permutability, dynamism, and morphogenesis. But it finds its complement in a series of protocols which are fundamentally defensive, mitigating supply chain risk from blockades and earthquakes, strikes and supplier shortages. If “agility” is the watchword of offensive logistics, defensive logistics aims for “resilience” and emphasises the values of elasticity, homeostasis, stability, and longevity. But resilience is only ostensibly a conservative principle; it finds stability not in inflexibility but in constant, self-stabilising adaptivity.¹⁸ In this sense, the defensive and the offensive forms of logistics are really impossible to disentangle, since one firm’s agility is another’s volatility, and the more flexible and dynamic a firm becomes the more it “exports” uncertainty to the system as a whole, requiring other firms to become more resilient. In any case, we can expect that, in the context of the economic crisis and the looming environmental collapse, logistics will become more and more the science of risk management and crisis mitigation.

Logistics is capital’s art of war, a series of techniques for intercapitalist and interstate competition. But such wars are, at the same time, always fought through and against workers. One of the most significant reasons for the extension, complication and lubrication of these planetary supply chains is that they allow for arbitrage of the labour market. The sophisticated, permutable supply chains of the contemporary world make it possible for capital to seek out the lowest wages anywhere in the world and to play proletarians off of each other. Logistics was therefore one of the key weapons in a decades-long global offensive against labour. The planetary supply chains enabled by containerisation effectively encircled labour, laying siege to its defensive emplacements such as unions and, eventually, over the course of the 1980s and 1990s, completely

¹⁷ Walmart CEO Bill Simon, a former Navy officer, initiated programs which recruit managers and executives from the military. Michael Bergdahl, *What I Learned From Sam Walton* (John Wiley 2004), 155. He has also established ‘leadership’ programs modeled on military academies.

¹⁸ Christopher, *Logistics and Supply Chain Management*, 189-210.

crushing them. From there, with labour on the run, logistics has enabled capital to quickly neutralise and outmanoeuvre whatever feeble resistance workers mount. Although capital must deal with the problem of sunk investments in immovable buildings, machines, and other infrastructures, reconfigurable supply chains allow it unprecedented power to route around, and starve, troublesome labour forces. By splitting workers into a “core” composed of permanent workers (often conservative and loyal) and a periphery of casualised, outsourced and fragmented workers, who may or may not work for the same firm, capital has dispersed proletarian resistance quite effectively. But these organisational structures require systems of coordination, communication and transport, opening capital up to the danger of disruption in the space of circulation, whether by workers charged with circulating commodities or by others, as with the port blockade, who choose circulation as their space of effective action, for the simple reason that capital has already made this choice as well. The actions of the participants in the port blockade are, in this regard, doubly determined by the restructuring of capital. They are there not only because the restructuring of capital has either left them with no jobs at all or placed them into jobs where action as workers according to the classical tactics of the worker’s movement has been proscribed, but also because capital itself has increasingly taken the sphere of circulation as the object of its own interventions. In this regard, theory provides us not only with the *why* of capital’s restructuring but the *why* of a new cycle of struggles.

Visibility and Praxis

It should be obvious by now that logistics is capital’s own project of cognitive mapping. Hence, the prominence of “visibility” among the watchwords of the logistics industry. To manage a supply chain means to render it transparent. The flows of commodities in which we locate our blockaders are doubled by flows of information, by a signifying chain that superintends the commodity chain, sometimes without human intervention at all. Alongside the predictive models of finance, which aim to represent and control the chaotic fluctuations of the credit system and money, logistics likewise manages the complex flows of the commodity system through structures of representation. We might imagine, then, a logistics against logistics, a counter-logistics which employs the conceptual and technical equipment of the industry in order to identify and exploit bottlenecks, to give our blockaders a sense of where they stand within the flows of capital. This counter-logistics might be a proletarian art of war to match capital’s own *ars belli*. Imagine if our blockaders knew exactly which commodities the containers at particular berths, or on particular ships, contained; imagine if they could learn about the origin and destination of these commodities and calculate the possible effects —

functionally and in dollars — of delays or interruptions in particular flows. Possession of such a counterlogistical system, which might be as crude as a written inventory, would allow antagonists to focus their attention where it would be most effective. Taking, for example, the situation of the French pension law struggles of 2010, in which mobile blockades in groups of twenty to a hundred moved throughout French cities, supporting the picket lines of striking workers but also blockading key sites independently, the powers of coordination and concentration permitted by such a system are immediately apparent.¹⁹ This is one example of the strategic horizons which unfold from within struggles, even if most discussions of such counterlogistics will have to be conducted with particular occasions in mind.

But beyond the practical value of counterlogistic information, there is what we might call its *existential* value: the way in which being able to see one's own actions alongside the actions of others, and being able to see as well the effects of such concerted action, imbues those actions with a meaning they might have otherwise lacked. The contagiousness of the Arab Spring — for example — arises in part from the affirmative effect of transmitted images of struggle. Being able to see one's own action in the face of state violence reflected in and even enlarged by the actions of others can be profoundly galvanising. This is another one of the values of theory with regard to praxis — the ability to place struggles side by side, to render struggles visible to each other and to themselves.

This importance of visibility — or legibility, as he calls it — is essential to one of the best discussions of the restructuring of labour in late capitalism, Richard Sennett's *The Corrosion of Character*. Sennett suggests that the “weak work identity” of contemporary workplaces — distinguished mainly by computerisation, in his treatment — results from the utter illegibility of the work processes to the workers themselves. Visiting a bakery which he had studied decades earlier for his first book, *The Hidden Injuries of Class*, Sennett finds that, in place of the physically challenging processes of the 1960s bakery, workers now used computer-controlled machines which can produce any kind of bread according to changing market conditions, simply by pressing a few buttons. As a result, unlike bakers in the past, the workers do not identify with their jobs or derive satisfaction

¹⁹ The blockades I am talking about differ from the classical barricade in that they are offensive rather than defensive. The main purpose of the barricades of the 19th century was that they dispersed the state's forces so that small groups of soldiers could either be defeated with force or fraternised with and converted. But the weakness of the barricade fight, as described by writers from Blanqui to Engels, was that partisans defended particular territories (their own neighborhoods) and could not shift around as needed. See Louis-Auguste Blanqui, ‘Manual for an Armed Insurrection’ (marxists.org) and Engels, ‘Introduction to Karl Marx’s “Class Struggles in France”’ (MECW 27), 517-519.

from their tasks, precisely because the functioning of the machines is fundamentally opaque to them. The difference between entering values into a spreadsheet and baking bread is negligible to them. Concrete labour has become fundamentally abstract, scrambling at the same time distinctions between material and immaterial, manual and mental labour:

Computerized baking has profoundly changed the balletic physical activities of the shop floor. Now the bakers make no physical contact with the materials or the loaves of bread, monitoring the entire process via on-screen icons which depict, for instance, images of bread color derived from data about the temperature and baking time of the ovens; few bakers actually see the loaves of bread they make. Their working screens are organized in the familiar Windows way; in one, icons for many more different kinds of bread appear than had been prepared in the past — Russian, Italian, French loaves all possible by touching the screen. Bread had become a screen representation.

As a result of working in this way, the bakers now no longer actually know how to bake bread. Automated bread is no marvel of technological perfection; the machines frequently tell the wrong story about the loaves rising within, for instance, failing to gauge accurately the strength of the rising yeast, or the actual color of the loaf. The workers can fool with the screen to correct somewhat for these defects; what they can't do is fix the machines, or more important, actually bake bread by manual control when the machines all too often go down. Program-dependent laborers, they can have no hands-on knowledge. The work is no longer legible to them, in the sense of understanding what they are doing.²⁰

There is an interesting paradox here, which Sennett draws out very nicely in the following pages: the more transparent and “user-friendly” the computerised processes are, the more opaque the total process they control becomes. His conclusion should trouble any simplistic conception of the powers of visibility or the “cognitive map” as such, a problem that Jameson recognised early on, declaring “informational technology the representational solution as well as the representational problem of [the] world system’s cognitive mapping”.²¹ The problems for Sennett’s workers, as well as for our blockaders, are practical as much as they are epistemological, a matter of doing and knowing together. Unless the representations such systems provide widen our capacity to do and to make, to effect changes upon the world, they will make that world more rather than less opaque, no matter how richly descriptive they might be. And though Sennett’s discussion is geared only toward the world of labour (and imbued with typical

²⁰ Richard Sennett, *The Corrosion of Character: The Personal Consequences of Work in the New Capitalism* (W. W. Norton & Co. 2000), 68.

²¹ Fredric Jameson, *The Geopolitical Aesthetic: Cinema and Space in the World System*, (Indiana University Press, 1995), 10.

left-wing nostalgia for the *savoir-faire* and stable identities that skilled work entailed) the problems of legibility pertain as much to our blockaders as to the dockworkers at the port. To persist beyond an initial moment, struggles need to recognise themselves in the effects they create, they need to be able to map out those effects, not just by positioning themselves within the abstract and concrete space of late capital, but within a political sequence that has both past and future, that opens onto a horizon of possibilities. All of this requires knowledge but it requires knowledge that can be practiced, that can be worked out.

Our blockaders are therefore dispossessed of usable knowledge by a technical system in which they appear only as incidental actors, as points of relay and insertion which require at most a stenographic compression of their immediate environs into a few kilobytes of usable information. Bernard Stiegler, who despite an often tedious Heideggerian theoretical apparatus is one of the best contemporary theorists of technology, describes this process as “cognitive and affective proletarianization”, where proletarians are dispossessed, as producers, of *savoir faire* and, as consumers, of *savoir vivre*. This is part of a long history of what Stiegler calls “grammatization”, in which knowledge and memory is discretised into reproducible and combinatorial bodily gestures — phonemes, graphemes, keystrokes, bits — and then exteriorised through inscription in matter.²² The digital and telecommunication technology of contemporary grammatisation is the final stage of this process, such that our memories and cognitive faculties now exist in the data cloud, as it were, part of a distributed technological prosthesis without which we are effectively incapable of orienting ourselves or functioning. In this largely persuasive account, which thankfully cuts against the optimistic readings of information technology as a progressive socialisation of “general intellect”, we are dispossessed not just of the means of production but the means of thought and feeling as well.

In many ways, Stiegler shares a great deal with the rich exploration of the concepts of alienation, fetishism and reification that followed the popularisation of the early Marx in the 1960s, by Herbert Marcuse, Guy Debord and others. We might, for this reason, wonder about the latent humanism in Stiegler. Sennett, however, provides us with an important caveat against reading Stiegler in humanist terms: whereas a certain kind of classic Marxist analysis might expect his bakers to want to reappropriate the knowledge of which they had been dispossessed by the machines, few of them have any such desires. Their real lives are elsewhere, and hardly any of them expect or desire dignity and meaning from their jobs as bakers. The only person who conforms to the expected outline of the alienated worker, in Sennett’s bakery, is the foreman, who worked his way

²² Bernard Stiegler, *For a New Critique of Political Economy*, (Polity, 2010), 40-44.

up from apprentice baker to manager, and takes the wastage and loss of skill in the bakery as a personal affront, imagining that if the bakery were a cooperative the workers might take more interest in knowing how things are done. The other workers, however, treat work not as the performance of a skill but as a series of indifferent applications of an abstract capacity to labour. Baking means little more than “pushing buttons in a Windows program designed by others”.²³ The work is both illegible to them, and utterly alien to their own needs, but not alien in the classic sense that they recognise it as a lost or stolen part of themselves they hope to recover through struggle. This is one of the most important consequences of the restructuring of the labour process superintended by the logistics revolution: the casualisation and irregularisation of labour, the disaggregation of the work process into increasingly illegible and geographically separate component parts, as well as the incredible powers which capital now has to defeat any struggle for better conditions, mean that it is not only impossible for most proletarians to visualise their place within this complex system but it is also impossible for them to identify with that place as a source of dignity and satisfaction, since its ultimate meaning with regard to the total system remains elusive. Most workers today cannot say, as workers of old could (and often did): *It is we who built this world! It is we to whom this world belongs!* The restructuring of the mode of production and the subordination of production to the conditions of circulation therefore forecloses the classical horizon of proletarian antagonism: seizure of the means of production for the purposes of a worker-managed society. One cannot imagine seizing that which one cannot visualise, and inside of which one’s place remains uncertain.

The Reconfiguration Thesis

The difficulties which Sennett’s bakers (or our blockaders) encounter are not simply failures of knowledge, ones that can be solved through pedagogical intervention; as valuable as a cognitive map of these processes might be, the problems we confront in *visualising* some self-management of existing productive means originate from the *practical* difficulties — in my view, impossibilities — that such a prospect would encounter. The opacity of the system, in this regard, emerges from its intractability, and not the other way around. In an insightful article on the logistics industry and contemporary struggle, Alberto Toscano (who has lately devoted considerable effort to critiquing theorists of communisation) faults the “space-time of much of today’s anticapitalism” for its reliance on “subtraction and interruption, not attack and

²³ Sennett, *The Corrosion of Character*, 70.

expansion”.²⁴ Toscano proposes, as an alternative, an anticapitalist logistics which treats the various productive sites and infrastructures of late capitalism as “potentially reconfigurable” rather than the object of “mere negation or sabotage”. No doubt, any struggle which wants to overcome capitalism will need to consider “what use can be drawn from the dead labours which crowd the earth’s crust”, but there is no reason to assume from the start, as Toscano does, that all existing means of production must have some use beyond capital, and that all technological innovation must have, almost categorically, a progressive dimension which is recuperable through a process of “determinate negation”. As we saw above, the use-value which the logistics industry produces is a set of protocols and techniques that enable firms to seek out the lowest wages anywhere in the world, and to evade the inconvenience of class struggle when it arises. In this sense, unlike other capitalist technologies, logistics is only partly about exploiting the efficiencies of machines in order to get products to market faster and more cheaply, since the main purpose of the faster and cheaper technologies is to offset the otherwise prohibitive cost of exploiting labour forces halfway around the world. The technological ensemble which logistics superintends is therefore fundamentally different than other ensembles such as the Fordist factory; it saves on labour costs by decreasing the wage, rather than increasing the productivity of labour. To put it in Marxist terms, it is absolute surplus value masquerading as relative surplus value. The use-value of logistics, for capital, is exploitation in its rawest form, and thus it is truly doubtful that logistics might form, as Toscano writes, “capitalism’s pharmakon, the cause for its pathologies (from the damaging hypertrophy of long-distance transport of commodities to the aimless sprawl of contemporary conurbation) as well as the potential domain of anti-capitalist solutions”.

For workers to seize the commanding heights offered by logistics — to seize, in other words, the control panel of the global factory — would mean for them to manage a system that is constitutively hostile to them and their needs, to oversee a system in which extreme wage differentials are built into the very infrastructure. Without those differentials, most supply-chains would become both wasteful and unnecessary. But perhaps “repurposing” means for Toscano instead a kind of making-do with the machinery of logistics as we find it, seeing what other purposes it can be put to, rather than imagining an appropriation of its commanding heights? Any revolutionary process will make do with what it finds available as a matter of necessity, but it is precisely the “convertibility” or “reconfigurability” of these technologies that seems questionable. The fixed capital of the contemporary production regime is designed for extraction of maximum surplus value; each component part is engineered for insertion into *this* global

²⁴ Alberto Toscano, ‘Logistics and Opposition’, see page 17.

system; therefore, the presence of communist potentials as unintended features —“affordances”, as they are sometimes called — of contemporary technology needs to be argued for, not assumed as a matter of course.²⁵ Much of the machinery of contemporary logistics aims to streamline the circulation of *commodities* and not use-values, to produce not the things that are necessary or beneficial but those that are profitable: individually packaged boxes of cereal, for instance, whose complex insignia distinguish them from the dozens of varieties of nearly identical cereals (sold and consumed in sizes and types that reflect certain social arrangements, such as the nuclear family). How much of the vaunted flexibility of the logistics system is really the flexibility of product variety, of wage differentials and trade imbalances? How much would become useless once one eliminated the commodity-form, once one eliminated the necessity of buying and selling? Furthermore, the contemporary logistics system is designed for a particular international balance of trade, with certain countries as producers and others as consumers. This is a fact fundamentally entangled with the wage imbalances mentioned earlier, which means that the inequality of the global system in part has to do with the unequal distribution of productive means and the

²⁵ Marxist theories of technology often diverge along two paths, each of which can be traced to the works of Marx. The dominant view holds that capitalist technologies are fundamentally progressive, first because they reduce necessary labour time and thereby potentially free humans from the necessity of labouring, and second because industrialisation effects a fundamental ‘socialisation’ of production, obliterating the hierarchies that once pertained to particular crafts (e.g. e.g. Marx, *Grundrisse* [MECW 29], 90-92 [Nicolaus trans.]). In this Orthodox account, communism is latent within the socialised, cooperative arrangement of the factory, whose technical substrate increasingly enters into crisis-producing contradiction with the inefficient and unplanned nature of the capitalist marketplace. But there is also a heterodox Marxist perspective on technology, whose exemplars are writers such as Raniero Panzieri and David Noble, and whose clearest sources lie in the chapter in *Capital* on ‘Machinery and Large-Scale Industry,’ and in particular, the section on the factory. There, Marx suggests that, in the modern factory system, capital’s domination of labour ‘acquires a technical and palpable reality’. In the factory ‘the gigantic natural forces, and the mass of social labour embodied in the system of machinery...constitutes the power of the master’ (Marx, *Capital vol.1* [MECW 35], 420-430 [Fowkes trans.]). But if machinery is a materialisation of capitalist domination – an objectification of the ‘master’ – then we have every reason to doubt that we can undo such domination without negating the ‘technical and palpable aspect of machinery. If workers were to seize production machinery and self-manage the factories, this might only amount to another mode of administering the domination sedimented inside the production machinery. The heterodox perspective is obviously in line with the conclusions of this article, but much work remains to be done in developing an adequate theory of technology. We cannot merely invert the Orthodox, progressivist account of machinery which assumes that every advance of the productive forces constitutes an enlargement of the possibilities for communism and declare, in opposition, that all technology is politically negative or inherently capitalist. Rather, we have to examine technologies from a technical perspective, from the communist prospect, and consider what affordances they really do allow, given the tragic circumstances of their birth.

infrastructures of circulation — the concentration of port capacity on the West Coast of the US rather than the East Coast, for instance, because of the location of manufacturing in Asia. Rebalancing the amount of goods produced locally or at a distance — if such a thing were to be a part of a break with capitalist production — would mean an entirely different arrangement of infrastructures and probably different types of infrastructure as well (smaller ships, for instance).

We might also question the reconfiguration thesis from the perspective of scale. Because of the uneven distribution of productive means and capitals — not to mention the tendency for geographical specialisation, the concentration of certain lines in certain areas (textiles in Bangladesh, for instance)— the system is not scalable in any way but up. It does not permit partitioning by continent, hemisphere, zone or nation. It must be managed as a totality or not at all. Therefore, nearly all proponents of the reconfiguration thesis assume high-volume and hyper-global distribution in their socialist or communist system, even if the usefulness of such distributions beyond production for profit remain unclear. Another problem, though, is that administration at such a scale introduces a sublime dimension to the concept of “planning”; these scales and magnitudes are radically beyond human cognitive capacities. The level of an impersonal “administration of things” and the level of a “free association of producers” are not so much in contradiction as separated by a vast abyss. Toscano leaves such an abyss marked by an ominous appeal to Herbert Marcuse’s concept of “necessary alienation” as the unfortunate but necessary concomitant of maintenance of the technical system. Other partisans of the reconfiguration thesis, when questioned about the scaling-up of the emancipatory desires and needs of proletarian antagonists to a global administration invariably deploy the literal *deus ex machina* of supercomputers. Computers and algorithms, we are told, will determine how commodities are to be distributed; computers will scale up from the demands for freedom and equality of proletarian antagonists and figure out a way to distribute work and the products of work in a manner satisfactory to all. But how an algorithmically-mediated production would work, why it would differ from production mediated by competition and the price-mechanism remains radically unclear, and certainly unmuddled by any actual argument. Would labour-time still be the determinant of access to social wealth? Would free participation (in work) and free access (in necessities) be facilitated in such a system? If the goal is rather a simple equality of producers — equal pay for equal work — how would one deal with the imbalances of productivity, morale and initiative, which result from the maintenance of the requirement that “he who does not work does not eat”? Is this what “necessary alienation” means?

But the non-scalarity (or unidirectional scalarity) of the logistics system introduces a much more severe problem. Even if global communist administration — by

supercomputer, or by ascending tiers of delegates and assemblies — were possible and desirable on the basis of the given technical system, once we consider the *historical* character of communism, things seem much more doubtful. Communism does not drop from the sky, but must emerge from a revolutionary process, and given the present all or nothing character of the international division of labour — the concentration of manufacturing in a few countries, the concentration of productive capacity for certain essential lines of capital in a handful of factories, as mentioned above — any attempt to seize the means of production would require an *immediately global seizure*. We would need a revolutionary process so quickly successful and extensive that all long-distance supply chains ran between non-capitalist producers within a matter of months, as opposed to the much more likely scenario that a break with capital will be geographically concentrated at first and need to spread from there. In most cases, therefore, maintenance of these distributed production processes and supply-chains will mean trade with capitalist partners, an enchainment to production for profit (necessary for survival, we will be told by the pragmatists) the results of which will be nothing less than disastrous, as a study of the Russian and Spanish examples will show. In both cases, the need to maintain an export economy in order to buy crucial goods on the international markets — arms in particular — meant that revolutionary cadres and militants had to use direct and indirect force in order to induce workers to meet production targets. Raising productivity and increasing productive capacity *now* became the transitional step on the way to achieving communism *then*, and in anarchist Spain, as much as Bolshevik Russia, cadres set to work mimicking the dynamic growth of capitalist accumulation through direct political mechanisms, rather than the indirect force of the wage, though in both cases economic incentive structures (piece rates, bonus pay) were eventually introduced as matter of necessity. It is hard to see how anything but a new insurrectionary process — one mitigated against by the establishment of new disciplines and repressive structures — could have restored these systems even to the labour-note based “lower phase of communism” that Marx advocates in “Critique of the Gotha Program”, let alone a society based upon free access and non-compelled labour.

The traditional discussions of such matters assume that, whereas underdeveloped countries like Russia and Spain had no choice but to develop their productive capacity first, proletarians in fully industrialised countries could immediately expropriate and self-manage the means of production without any need for forced development. This might have been true in the immediate postwar period, and as late as the 1970s, but once deindustrialisation began in earnest, the chance had been officially missed — the global restructuring and redistribution of productive means leaves us in a position that is probably as bad as, if not worse than, those early 20th-century revolutions, when some

large percentage of the means of production for consumer goods were ready to hand, and one could locate, in one's own region, shoe factories and textile mills and steel refineries. A brief assessment of the workplaces in one's immediate environs should convince most of us — in the US at least, and I suspect most of Europe — of the utter unworkability of the reconfiguration thesis. The service and administrative jobs which most proletarians today work are meaningless except as points of intercalation within vast planetary flows — a megaretailer, a software company, a coffee chain, an investment bank, a non-profit organisation. Most of these jobs pertain to use-values that would be rendered non-uses by revolution. To meet their own needs and the needs of others, these proletarians would have to engage in the production of food and other necessities, the capacity for which does not exist in most countries. The idea that 15% or so of workers whose activities would still be useful would work on behalf of others — as caretakers of a communist future — is politically non-workable, even if the system could produce enough of what people need, and trade for inputs didn't produce another blockage. Add to this the fact that the development of logistics itself and the credit system alongside it, greatly multiplies the power of capital to discipline rebellious zones through withdrawal of credit (capital flight), embargo, and punitive terms of trade.

Horizons and Prospects

The whole is the false, in this case, not so much because it can't be adequately represented or because any attempt at such representation does violence to its internal contradictions, but because all such global representations belie the fact that the whole can never be possessed as such. The totality of the logistics system belongs to capital. It is a view from everywhere (or nowhere), a view from space, that only capital as totalising, distributed process can inhabit. Only capital can fight us in every place at once, because capital is not in any sense a force with which we contend, but the very territory on which that contention takes place. Or rather, it *is* a force, but a field force, something which suffuses rather than opposes. Unlike capital, we fight in particular locations and moments — *here, there, now, then*. To be a partisan means, by necessity, to accept the partiality of perspective and the partiality of the combat we offer.

The weak tactics of the present — the punctual riot, the blockade, the occupation of public space — are not the strategic product of an antagonist consciousness that has misrecognised its enemy, or failed to examine adequately the possibilities offered by present technologies. On the contrary, the tactics of our blockaders emerge from a consciousness that has already surveyed the possibilities on offer, and understood, if only intuitively, how the restructuring of capital has foreclosed an entire strategic

repertoire. The supply chains which fasten these proletarians to the planetary factory are radical chains in the sense that they go to the root, and must be torn out from the root as well. The absence of opportunities for “reconfiguration” will mean that in their attempts to break from capitalism proletarians will need to find other ways of meeting their needs. The logistical problems they encounter will have to do with replacing that which is fundamentally unavailable except through linkage to these planetary networks and the baleful consequences they bring. In other words, the creation of communism will require a massive process of delinking from the planetary factory as a matter of survival. We will not have the opportunity to use all (or even many) of the technical means that we find, since so many of these will be effectively orphaned by a break with capitalist production. But what, then, of strategy? If theory is the horizon which opens from present conditions of struggle, strategy is something different, less a horizon than a prospect. Strategy is a particular moment when theory reopens to practice, suggesting not just a possible but a desirable course of action. If a horizon places us in front of a range of possibilities, the strategic moment comes when struggles reach a certain crest, an eminence, from which a narrower set of options opens up — a prospect. Prospects are a middle ground between where we are and the far horizon of communisation.

What are our prospects, then, based upon the recent cycle of struggles? We now know that the restructuring of the capital–labour relationship has made intervention in the sphere of circulation an obvious and in many ways effective tactic. The blockade, it seems, might assume an importance equal to the strike in the coming years, as will occupations of public space and struggles over urban and rural environments remade to become better conduits for flows of labour and capital — as recent struggles in both Turkey and Brazil have demonstrated. Our prospects are such that, instead of propagandising for forms of workplace action that are unlikely to succeed or generalise, we might better accept our new strategic horizon and work, instead, to disseminate information about how interventions in this sphere might become more effective, what their limits are, and how such limits could be overcome. We might work to disseminate the idea that the seizure of the globally-distributed factory is no longer a meaningful horizon, and we might essay to map out the new relations of production in a way that takes account of this fact. For instance, we might try to graph the flows and linkages around us in ways that comprehend their brittleness as well as the most effective ways they might be blocked as part of the conduct of particular struggles. These would be semi-local maps — maps that operate from the perspective of a certain zone or area. From this kind of knowledge, one might also develop a functional understanding of the infrastructure of capital, such that one then knew which technologies and productive means would be orphaned by a partial or total delinking from planetary flows, which ones might alternately be conserved or converted, and what the major practical and

technical questions facing a revolutionary situation might look like. How to ensure that there is water and that the sewers function? How to avoid meltdown of nuclear reactors? What does local food production look like? What types of manufacture happen nearby, and what kinds of things can be done with its production machinery? This would be a process of inventory, taking stock of things we encounter in our immediate environs, that does not imagine mastery from the standpoint of the global totality, but rather a process of bricolage from the standpoint of partisan fractions who know they will have to fight from particular, embattled locations, and win their battles successively rather than all at once. None of this means setting up a blueprint for the conduct of struggles, a transitional program. Rather, it means producing the knowledge which the experience of past struggles has already demanded and which future struggles will likely find helpful. 🇷🇺

Lineaments of the Logistical State

A l b e r t o
T o s c a n o

Lineament. *noun*. GEOLOGY.

A linear feature on the earth's surface, such as a fault.

"State space subordinates both chaos and difference to its implacable logistics."
– Henri Lefebvre, "Space and the State" (1978)

Logistical Revolts

Sometimes, we have to look in unlikely places for news that can nourish a radical political imagination.¹ *World Cargo News*, for instance:

According to The Strike Club, the market leader for delay insurance for the maritime trades, the early months of 2013 have been marked by extremely damaging strike action in several countries, which has punished shipowners and charterers even though they are innocent parties. Some of the worst trouble spots in recent weeks have been in South America, particularly Chile, where a three-week strike crippled the country's key ports, blocking exports of copper, fruit and wood products. Chile's business leaders estimate the country lost more than US\$200M a day due to the conflict. There has also been a miners' strike in Colombia and it was only this month that US stevedores signed a six-year master contract with employers that removed the strike threat at east and Gulf coast ports. In South East Asia, a port workers' strike has now dragged on for more than three weeks in Hong Kong, while Greece is currently in the spotlight as the seafarers' union is threatening strike action in protest at new maritime legislation that, it is claimed, will swell their current high unemployment number. It was against this background that the Strike Club's directors met in Singapore at the end of last week, where the managers reported higher levels of shore-related claims from a wide range of incidents. These included general strikes, port strikes, strikes by land transport operators, customs and

¹ I have presented versions of this paper, under the titles "The Politics of Circulation" and "Logistical Revolts," at *e-flux* in New York City and the Historical Materialism conference in London. I thank the audience at these events and my co-panelists (Tim Mitchell, Kanishka Goonewardena, and Alex Loftus) for their engagement with the arguments. Many thanks also to Jason E. Smith for his perceptive comments on a draft. I would also like to thank Jasper Bernes for sending me his article on logistics and the communist prospect in advance of publication, and for beginning a critical dialogue which I look forward to pursuing.

pilots, as well as port closures, blockades by fishermen, physical obstructions and mechanical equipment breakdowns.²

It has long been noted that the apparatuses of control and accumulation that structure the social and material reality of circulation – transport, the energy industry and, after World War Two, “business logistics” as a veritable science of real subsumption – though born to break the bargaining power of transport workers and accumulate profits by annihilating space and depressing wages, have also, especially through their energetic dimensions, created dynamic arenas for class struggle. Tim Mitchell has advanced this argument with great acumen – writing that in the age of coal, workers’ power “derived not just from the organizations they formed, the ideas they began to share on the political alliances that they built, but from the extraordinary quantities of carbon energy that could be used to assemble political agency, by employing the ability to slow, disrupt, or cut off its supply.”³ Interruption here represented a form of power correlated to the energetic vulnerabilities of capital accumulation and political power. The strike and the blockade, control and interruption, were entwined in the history of what, repurposing Mitchell, we could call *carbon syndicalism* or *carbon communism*. More recently, struggles at the choke points of a planetary logistical system have led Sergio Bologna to speak of “the multitude of globalization,” designating all of those who work across the supply chain, in the manual and intellectual labor that makes highly complex integrated transnational systems of warehousing, transport, and control possible. It is members of this multitude, clerical workers and truckers in Los Angeles and Long Beach,⁴ crane operators in Hong Kong,⁵ distribution centre workers for Wal-Mart,⁶

² “Strike Club reflects growing labour unrest,” 22 April 2013. I was alerted to the existence of this improbably and impeccably named firm specialising in insurance against logistical class struggle by Sergio Bologna, arguably the most incisive contemporary analyst of the logistic industry. See “Scioperi nella catena logistica: i porti,” *Commonware*, www.commonware.org/index.php/cartografia/128-scioperi-nella-catena-logistica-i-porti.

³ Timothy Mitchell, *Carbon Democracy: Political Power in the Age of Oil* (London: Verso, 2011), 20.

⁴ “Los Angeles and Long Beach port clerical workers on strike,” *World Socialist Website*; Micah Uetricht, “Wave of Low-Wage Worker Strikes Hits LA Ports,” *In These Times*, www.wsws.org/en/articles/2012/12/01/cali-d01.html

⁵ “Hong Kong dock strike cripples world’s third busiest port,” *CNN*, edition.cnn.com/2013/04/03/world/asia/hong-kong-dock-strike.

⁶ Warehouse Workers for Justice, www.warehouseworker.org/elwoodstrike.html.

logistical workers in Northern Italy⁷, or even air-traffic controllers in Spain⁸ that have led some to see not a secular vanishing but a shift in the loci of class struggle. This has prodded some to look again at the critical role of antagonism along the conduits of circulation – an abiding feature of the workers’ movement throughout its history – taking into consideration the intensifying significance of logistics to the reproduction of capital, but also its contradictory, uneven relationship to the reproduction of the capital-labor relation.

Can we define or declare a relocation of political and class conflict, in the overdeveloped de-industrializing countries of the “Global North,” from the point of production to the chokepoints of circulation? Is it possible to raise the status of logistical counter-power, in the guise of the blockade, for instance, from that of a tactic to that of a *strategy*, one that would redefine anti-capitalist and revolutionary action in a context where the appropriation of the means of production is either a distant or an unappealing prospect? In order to begin to approach such challenging issues of theory and practice, I believe it is necessary to consider the centrality of a theory and practice of *interruption*, targeted at logistical apparatuses, which has become increasingly attractive to anti-systemic militancy – and in a second moment to explore the forms of capitalist and political power that have accompanied the “logistics revolution.”

In this light, I would like to revisit – meaning both to expand and revise – some arguments about the current political significance of logistics that I rehearsed 3 years ago in a brief article for Mute magazine, entitled “Logistics and Opposition.”⁹ That article tried to identify, picking up on one of the leitmotifs of The Invisible Committee’s *The Coming Insurrection*, how an ambient radical preoccupation with events, ruptures, dissensus, was being both concretized and in some ways surpassed by a “spontaneous philosophy of interruption,” or even of sabotage, which saw disruptive actions at the nodes and terminals of circulation (here used loosely to include distribution, transportation, and consumption, but with an emphasis on the logistical) as overtaking workers’ actions at the point of production, the paradigm for nineteenth and twentieth century socialist politics. The Invisible Committee’s stance – which I think faithfully renders a structure of feeling of contemporary radicalism – is nicely encapsulated in the following declaration:

⁷ “Sciopero logistica, caos al Nord Italia,” *Corriere della Sera*, www.corriere.it/cronache/13_marzo_22/sciopero-logistica-caos_50cba754-92cb-11e2-b43d-9018d8e76499.shtml.

⁸ “Spanish airports reopen after strike causes holiday chaos,” *The Guardian*, www.theguardian.com/world/2010/dec/04/spanish-airport-strike-state-emergency.

⁹ See page 17.

The technical infrastructure of the metropolis is vulnerable: its flows are not merely for the transportation of people and commodities; information and energy circulate by way of wire networks, fibres and channels, which it is possible to attack. To sabotage the social machine with some consequence today means re-conquering and reinventing the means of interrupting its networks. How could a TGV line or an electrical network be rendered useless?¹⁰

As suggested by some statements and reflections that accompanied the 2 November 2011 shutdown of the Port of Oakland,¹¹ this could be framed – in that periodizing register so prevalent in contemporary debates – as an epochal transformation in anti-capitalist action, figuratively captured as a move from the strike to the blockade, as well as from workers’ demands centered on their own workplaces to a less regimented convergence of an “extrinsic proletariat” around the interruption of capital flows. If capital not in motion, is (as Marxists and managers concur) no longer capital, then its political immobilization, however fleeting, lends an impact otherwise absent from defensive anti-austerity politics. Motion and mobility, or rather “mobilization,” were the targets of The Invisible Committee’s jeremiads against the depoliticizing despotism of the metropolis, and their wager – common to other strands in contemporary insurrectionary thought – was that the interruption of this spectacular regime of commodity flows may serve as the catalyst for the forging of antagonistic collectivities and forms-of-life: a recasting of the political form of the commune, which traced its arc from the beginning of the age of Empire to the present through the transfiguration of the social spaces and political temporalities of cities such as Paris, Barcelona, Shanghai, Kwangju, mutating in step with economic conjunctures and ideas of politics.

In my Mute article, leaning on Furio Jesi’s remarkable book on the Berlin insurrection of 1919, *Spartakus: The Symbolology of Revolt*,¹² I suggested that the spatio-temporal imaginary at work here is not one of revolution but of revolt, yet that the revolt imagined in *The Coming Insurrection* and kindred texts is a different kind of revolt, one aimed not so much at the *urbanization* of capital, à la David Harvey, but at the all-encompassing

¹⁰ The Invisible Committee, *The Coming Insurrection* (Los Angeles: Semiotext(e), 2009), 111–112.

¹¹ See, for example, “Blockading the Port is the First of Many Last Resorts,” *Bay of Rage*, www.bayofrage.com/from-the-bay/blockading-the-port-is-only-the-first-of-many-last-resorts/. See also Joshua Clover’s ongoing reflections on the blockade within the context of the riot-form of contemporary politics, the object of the book *Riot. Strike. Riot: The New Era of Uprisings* (London: Verso, 2016). A version of his argument can be found as an audio file from the 2013 Historical Materialism conference in NY, wearemany.org/a/2013/04/commune-now.

¹² Furio Jesi, *Spartakus: The Symbolology of Revolt*, ed. A. Cavalletti, trans. A. Toscano (Calcutta: Seagull, 2014).

integration of production, circulation and distribution in logistical systems through which the supremacy of constant capital prophesied by Marx writes itself on the surface of the earth in forms both titanic and capillary. This is the baleful spatio-energetic complex that Mumford identified when he argued that “processing” had become “the chief form of metropolitan control.”¹³

Beyond the notion, shared by both the pro- and anti-union left, that attention to logistics lays bare some of capital’s nerve-centers, be they levers for political pressure or sites of negation, I also wanted to speculate about, and partially endorse, a trend in some recent radical thought, to consider the “logistical revolution” as an important site for thinking the “reconfiguration” or “refunctioning” of capitalist social relations of production – efforts towards imagining and practicing non-capitalist uses of quintessential instruments of contemporary capital accumulation. Could the speed, standardization and automation of the container port, or the capacities of Walmart distribution chains, be regarded as possible material bases for alternative, antagonistic organizations of production, circulation and distribution?

My Mute article has been the object of trenchant if comradely critique in a contribution to the journal *Endnotes* by Jasper Bernes. That piece, “Logistics, Counterlogistics, and the Communist Prospect”¹⁴ raises some urgent critical and strategic questions, and I want to take the opportunity to respond to some of its arguments here, since I think they clarify the stakes (as well as the different conceptions) of a politics of circulation. I then want to consider how our conceptions of capital accumulation, the capital-relation, and material flows might determine a certain understanding of tactics of resistance and strategies of antagonism by considering two geographically-inflected ways of approaching these problems – drawn from Marx and Henri Lefebvre – that can help us better to specify what kind of “circulation” is at stake. What emerges from this brief foray into historical materialist geographies of circulation are two corrections to a direct political identification of crisis capitalism with its logistical infrastructure: first, the need to offset a tendency to class logistics and transport on the side of circulation, neglecting Marx’s prescient assertion that locational change could be a commodity on its own right, and that the capitalist transport industry was itself a form of, as it were, *directly productive circulation*, blurring the boundaries between making and moving¹⁵ ; second, now following Lefebvre, a recognition that even or especially in

¹³ Lewis Mumford, *The City in History* (New York: Harcourt, 1961), 541-2.

¹⁴ See page 27.

¹⁵ See Deborah Cowen, *The Deadly Life of Logistics* (Minneapolis: University of Minnesota Press, 2014), 20.

a neoliberal moment, the state has played an absolutely crucial role in the deployment and securitization of logistics, meaning that conflicts at the choke points of circulation are not immediate challenges to value-in-motion, but mediated assaults on capitalist power, in the guise of what Lefebvre depicted in the 1970s as the emergent logistical state.

The Reconfiguration Thesis: A Reply

Bernes's article takes me to task as a representative of what he calls the "reconfiguration thesis," a strategic hypothesis which argues that anti-capitalist politics should move beyond a mere negation of capitalist relations, orienting itself instead towards a reckoning with what can be redeployed or refunctioned in the vast, and vastly complex, systems of "dead labor" that capital accumulation has thrown up – systems of which logistics is both an emblem and a vital component. Bernes's text is an important theoretical balance sheet of the struggles that culminated, for the time being, in the Oakland port blockade, and provides a rich, polemical synthesis of many of their key stakes. For that reason, I hope that engaging with his criticisms can serve to clarify the problems of circulation and logistics that confront present efforts to revive communist theory and practice.

Bernes suggests that I – along with other advocates of the aforementioned thesis, namely Mike Davis¹⁶ and Fredric Jameson¹⁷ – hold to the argument that "all existing means of production must have some use beyond capital, and that all technological innovation must have, almost categorically, a progressive dimension which is recuperable through a process of 'determinate negation.'" Though I was purposely bending the stick against a romantic vision of communitarian sabotage,¹⁸ I stressed that any "reconfiguration" concerns an evaluation, both practical test and theoretical anticipation, of, as I had said, "*what aspects* of contemporary capitalism could be refunctioned in the passage to a communist society." This implies that some (many, *even most* – the ratio is not decidable *a priori*) of these aspects could not be refunctioned at all (though they would still need to be somehow dealt with or disposed of). Notwithstanding our strategic differend, or our different intuitions about the leeway for repurposing, I think we broadly agree that there is no *a priori* way to simply declare certain features of capitalist production and circulation as allowing for

¹⁶ Mike Davis, "Who Will Build the Ark?," *New Left Review* 61 (2010), 29-46.

¹⁷ Fredric Jameson, "Utopia as Replication," in *Valences of the Dialectic* (London: Verso, 2010).

¹⁸ "The War Against Pre-Terrorism," *Radical Philosophy*, 154 (2009), 2-7.

communist uses. The test is a practical and political one. Where we part ways, perhaps, is in the confidence with which Bernes dismisses the potentialities of the assemblages of capitalist accumulation – logistics *in primis* – which he presents as (to employ Jameson’s terminology) essentially mono-valent, dialectically irrecoverable.

Approaching logistics in a transitional horizon necessarily involves reflecting on how much of the gigantism of the contemporary logistical complex is unthinkable outside of capital’s irrational rationalities – as Sergio Bologna has pointed out in some very interesting “insider” interventions (his “day job” for many years has been as a logistics consultant) on Italian ports: the vast majority of containers travelling east from Europe are full of “shit and air” (waste products and emptiness) and the craze for supercontainers as well as for the building of countless deep ports is comprehensible only in the context of the financialization of maritime assets and the correlated competition between different local authorities for subsidies and capital.¹⁹ So speaking of “potentially reconfigurable” devices is, I hope, compatible, with the practical evaluation of what, where and how can any reconfiguration could occur (we could think here of the experience of the Lucas Plan in the UK as a rough precursor for this kind of social practice²⁰). As both Bernes’s “communist prospect” and Bologna’s advice to the Italian logistics industry suggest, this would most likely involve smaller ships and fewer ports...

Bernes also suggests that, together with its contribution to the tendential evanescence of an organized working class at the hinges of circulation, the specifically capitalist use-value of logistics – principally its depression of labor costs through a smooth despotism over the international division of labor – means that it cannot be approached by analogy with the factory, traditionally envisaged by the left as the site of workers’ reappropriation and control.

That logistics has been driven by labor arbitrage and class struggle (the latter more in its inaugural moments, I think) is certainly true, but I remain skeptical about some of the conclusions Bernes draws from it, as well as about the assumption that logistics has made possible a linear race to the bottom. Though conditions there are hardly rosy, if

¹⁹ “The race to gigantism is a razor’s edge contest between asset values; it is a way to weaken the adversary, always raising the bar not so much in terms of capacity but in terms of technological innovation.” Sergio Bologna, *Banche e crisi. Dal petrolio al container* (Roma: DeriveApprodi, 2013), 139.

²⁰ This attempt to convert the military aerospace firm Lucas Industries to socially-useful production by its militant workforce is discussed in the book by one of the engineers and union organizers behind the plan, Mike Cooley, *Architect or Bee? The Human/Technology Relationship* (Boston: South End Press, 1982).

we view the logistical revolution say from Shenzhen and not Long Beach, the bargaining power as well as wages of some sectors of the Chinese workers have risen.²¹ Moreover, the complexities of the international division of labor and possibilities of class struggle involved therein are not comprehensible, in my view, through the axis of absolute/relative surplus value alone – as suggested in Bernes’s claim that, inasmuch as the “technological ensemble which logistics superintends is therefore fundamentally different than other ensembles such as the Fordist factory,” focusing on labor arbitrage rather than increased labor productivity, logistics “is absolute surplus value masquerading as relative surplus value.” The passage from craft to industrial (assembly line) production in the earlier twentieth century was also viewed as a devastation of the workplace and associational bargaining power of workers, but it turned out not to be such a univocal process. Here I think Bernes falls into what for me remains a serious shortcoming of so-called communization theory, the positing of a linear periodization of figures of struggle and exploitation (not dissimilar from the periodizing problems of *operaismo*, with a similar tendency to generalize from “Northern” conditions), and a disregard for the political and economic unevenness of capitalism, which at times ends up generating a baleful materialist teleology. In short, the notion that Chinese industrial strikes are somehow historically residual is as untenable today as the Stalinist notion that agrarian struggles were regressive was in the 1940s.

In the final analysis, I think the economic and political arguments enlisted by Bernes to establish that logistical systems are lacking the “refunctionable” potentialities that were once projected onto the factory are not definitive. In effect, we could see logistics as a crucial component of the materialization of that old Italian workerist thesis, the “social factory.” Leaning on the embryonic theorization of value-production in the transport industry in volume 2 of *Capital* (on which more below), on the material reality that commodities today are “manufactured *across logistics space*,”²² as well as on the explicit capitalist strategy behind the rise of logistics in the postwar period – grounded as it is on the idea of a “shift from cost minimization *after production* to value added *across circulatory systems*”²³ – it seems difficult not to conclude that logistics is only analytically and not *actually* separable from the production-process nowadays, such that we could really hive-off valorization in the factory (which is a spatially-segregated production unit only in economic abstraction) from valorization at the container terminal. Moreover, as a complex material and social relation of circulation and exploitation, it

²¹ See Chris King-Chi Chan, *The Challenge of Labour in China: Strikes and the Changing Labour Regime in Global Factories* (London: Routledge, 2010), 141.

²² Cowen, *The Deadly Life of Logistics*, 2.

²³ Cowen, *The Deadly Life of Logistics*, 24. See also 40.

does not seem to me that logistics is “more” constitutively hostile to workers’ needs than the factory. That said, I think Bernes’s essay is to be commended for delineating some of the formidable problems for political strategy and especially for envisaging transitions out of capitalism that the “logistics revolution” entails.

Bernes, who nicely presents logistics not only as “capital’s art of war” but as its own solution to what Jameson had called the problem of cognitive mapping rejects the idea that some kind of counter-logistics, or more bluntly the collective planning of circulation, could throw up such a map.²⁴ For him:

Because of the uneven distribution of productive means and capitals – not to mention the tendency for geographical specialisation, the concentration of certain lines in certain areas (textiles in Bangladesh, for instance) – the system is not scalable in any way but up. It does not permit partitioning by continent, hemisphere, zone or nation. It must be managed as a totality or not at all. Therefore, nearly all proponents of the reconfiguration thesis assume high-volume and hyper-global distribution in their socialist or communist system, even if the usefulness of such distributions beyond production for profit remain unclear.

The fundamental opacity of logistical systems to workers has been much remarked upon, and it can indeed be seen as one of its broadly political functions. As Allan Sekula noted, those boxes, uncannily proportioned like dollar bills, are also coffins of labor-power.²⁵ Yet, for all of the skepticism towards refunctioning this state of affairs should inspire, we can’t simply infer from these blockages to proletarian knowledge that an emancipatory refunctioning (and therefore profound transformation) of these systems is impossible. One should be wary in any case of treating this primarily as an issue about the mappability of the system for the individual, when it is really a question of devising forms of collective control, which might include – especially at larger scales of social mediation – considerable quotas of opacity. In this regard, short of the unviable idea that a post-capitalist society must be local, and that its politics needs involve the transparency of the small community or commune, I think the world market remains, in however arduous a way, a presupposition (not a framework!) for any transition out of capitalism. Most things of worth and interest are beyond the cognizability of single

²⁴ It is worth noting that business logistics includes its own explicit theory of economic cartography, “process mapping.” “Process mapping might be understood as a rescaled motion study in the interests of transnational efficiency,” which leads a logistics company report to declare ‘The mapping enables managers to see the total picture.’ See Cowen, *The Deadly Life of Logistics*, 109.

²⁵ I explore this relation between cognitive mapping and logistics at length in Chapter 6 of Alberto Toscano and Jeff Kinkle, *Cartographies of the Absolute* (Winchester: Zero, 2015), “The Art of Logistics.”

individuals (scientific developments, cultural traditions, how technology works, what have you) but this only poses a problem as such if we think dis-alienation is a matter of personalization, of making us “at home in the world” (a cast of mind that some recent radical theory shares with the palliative spectacles of ethical consumption it would undoubtedly castigate). I struggle to see why this would either be emancipatory or attractive. I also don’t think that, as Bernes suggests, logistics is a view from nowhere of Capital-as-subject: it is a deeply incoherent, contradictory, conflicted, and competitive domain; a strategic field of fierce competition sitting uneasily with state and security coordination, as well as inevitable processes of standardization. Process mappings, while striving towards homogeneity of spaces and codes, remain strategic weapons in the hands of capitalist agents, not overviews by “capital.” Ideas of full visibility as integral flexibility are part of the ideology (and fantasy) of logistics, which in many ways is just a later iteration of other ideologies of capitalist efficacy: Taylorism, Toyotism, etc. The value-dynamics and spaces of logistics are deeply contradictory, in ways I will explore further below with reference to Lefebvre; they are more likely to be gummed up – for the time being – by internal impasses than by resolute political intervention.

Bernes is rightly wary of those “reconfigurationists” who see the problems of building a post-capitalist society resolved by a digital magic bullet – communist algorithms of distribution and other such hopeful schemes. But faced with such technological fixes, it is worth recalling that²⁶ paucity of solutions has never been an argument for the non-existence of problems. Bernes also takes me to task for asserting, in keeping with some of David Harvey’s observations in *Justice, Nature and the Geography of Difference*, that social processes and spaces have built-in hierarchies and opacities, and that a sober if intransigent anti-capitalist politics would require, by analogy with Marcuse’s distinction between surplus and necessary repression, to think, practically, through something like “necessary alienation.” What I meant by this was the (perhaps banal) point that the reproduction of social life in general, even outside of the mediation of value, will involve certain asymmetries of authority, partial delegations of control, opacity, and so forth. Post-capitalism, or communism, is not the absence of social form or social synthesis but *another* form or *synthesis*, another mode of regulation – as Raymond Williams noted, a *more complex* one.

Here I think Bernes takes back with one hand what he’s abandoned with the other. On one side, he writes about those who through blockades and communes, “occupations,” may try to undo the rule of capital: “To meet their own needs and the

²⁶ The concept of necessary alienation is introduced with a different inflection, having to do with Hegel’s theory of time, in par. 161 of Guy Debord’s *The Society of the Spectacle*. Thanks to Jason E. Smith for bringing this to my attention.

needs of others, these proletarians would have to engage in the production of food and other necessities, the capacity for which does not exist in most countries.” I agree, and would add, that, as such, there is nothing particularly attractive about the devastation of capitalist everyday life, in all its alienations, in favor of some kind of re-ruralization, where the social form is based on comradeship, friendship, or some kind of band of brothers bond (communism too needs to think through “unsociable sociability”). But then he says that: “The absence of opportunities for ‘reconfiguration’ will mean that in their attempts to break from capitalism proletarians will need to find other ways of meeting their needs.” To which I think a sober material analysis will simply answer: they won’t (even if, which I think would be a big problem, we maintain “needs” as defined in a rather biological way). This entails that in many cases (perhaps most – but again this is not an *a priori* matter) “delinking” is simply not an option.

The rhetoric of communist abundance has most likely seen its day, but not for that should it be replaced by some kind of communism of penury or emergency – and in this sense I think the “delinking” point is somewhat “terroristic” in form (in the noble sense of a Sartrean terror-fraternity, not of the PATRIOT Act): a communism of survival in a besieged enclave forced by the fact that existing in a global capitalist system involves irrevocable compromises. This other formulation, on the other hand, I find much more plausible, and, strategic differences aside, would endorse: “one might also develop a functional understanding of the infrastructure of capital, such that one then knew which technologies and productive means would be orphaned by a partial or total delinking from planetary flows, which ones might alternately be conserved or converted, and what the major practical and technical questions facing a revolutionary situation might look like.” The “inventory” would certainly be a part of anything I would consider as refunctioning. As would of course the problem of what to do with the unrefunctionable dead labors (both in terms of the social relations they bear, and the material problems they pose, the waste they perpetuate). Planned communist obsolescence perhaps? This too would be the object of some pretty trenchant struggles, for which we have some interesting preludes in the big disputes in the 1920s over whether the urban form as it existed was compatible with communism (here I’m more with Mike Davis than with Amadeo Bordiga’s urban abolitionism in his bracing screed “Space Versus Cement,”²⁷ much as I’m exceedingly fond of the latter).

Bernes, reflecting on the experience of Oakland – which he’s largely right in seeing as a high point of the Occupy moment, transcending a certain fetishism for democratic participation, while rediscovering forms of struggle adequate to our present – puts much

²⁷ Amadeo Bordiga, “Spazio contro cemento”, www.che-fare.org/classici/bordiga/spazio_contro_cemento.htm.

emphasis on the blockade, but I have questions as to whether its status as tactic and strategy has been duly clarified here. In particular, I remain unclear about what the criteria of political “efficacy” are in this instance. Presumably, they are not a matter of workplace bargaining power – of the kind recently seen in Long Beach or the Hong Kong container port, or in that sadly missed opportunity that was the Spanish air traffic controllers strike. Is “power” here measured principally by providing an emblem (logistics as a kind of symbolic insurrectional adversary, rather than a lever for traditional workers’ politics), as a point of political condensation? Is it marked by the losses incurred by capital (usually nugatory in the broader scheme, even in strong struggles)? What kind of political spaces and durable organization (in the widest sense of the term) can we see coalescing around the blockade as a form of contemporary struggle?

Social Forms of Dead Labor

As I’ve noted, Bernes’s argument against the presupposition that devices and systems crucial to capital accumulation could be refunctioned in a non-capitalist guise is a healthy reminder of the fact that we’re never dealing with mere materiality or technology, but with certain often invisible social forms that animate given configurations of matter. Yet if we concur that technological contents or forces can’t simply slough off their forms and find themselves happily relocated within other relations of production and reproduction, we should likewise, while remaining cognizant of the material and energetic preconditions for certain forms, not fetishize them. This, it seems to me, is one of the pitfalls of the “interruptive strain” in the politics of circulation – which sees the blockage as a kind of *material revelation* (this is a problem which haunts *The Coming Insurrection* much more than Bernes’s essay). In this respect, there is a left version here of the notion of frontstaging the urban backstage which has recently been ably criticized by Stephen Graham²⁸ – where state phobias and practices of disruption (like military strategy of “shutting cities down”) are simply mirrored in activist discourses, where disruption is not sufficiently linked to *control*.

One of the theoretical limits of the philosophy of interruption, whether spontaneous or reflexive, that marks much contemporary radicalism lies then in its insufficient

²⁸ See “Frontstaging the Urban Backstage? The Politics of Infrastructure Disruptions”, www.slideshare.net/sdng1/fronstaging-the-urban-backstage.

consideration of the polysemy of “circulation.”²⁹ The hypostasis of the blockade tactic can suggest that all varieties of circulation may be targeted at the “choke points” of logistics. But even if we remain only within the bounds of the Marxian canon, circulation can take an at times bewildering and slippery variety of guises. It can denote flows of material and resources (such as would exist in any mode of production); the sphere of exchange (that domain ruled over by freedom, equality and Bentham, and from which most of our misprisions about liberalism are deemed to derive); it can denote circulating as opposed to fixed capital (meaning the capital consumed in process of production, be it raw materials or the exertion of living labor-power); but it can also mean “capital of circulation,” which takes different guises in its travels through the market – leading to Marx’s crucial reflections on “circulation time,” which the annihilation of space through time is constantly driving to diminish. We can even think of circulation in keeping with the circuits in which Marx maps the formal metamorphosis of value, which are also the sites, at the level of theory, of capital’s contradictions.

In 1928, Isaak Illich Rubin pioneered the discussion of Marx as a thinker of “social form.” Rubin stressed how Marx’s critique of classical political economy hinges on distinguishing between “material categories” concerned with “technical methods and instruments of labour,” on the one hand, and “social forms” concerned with specifically capitalist relations, on the other. The blind spot of political economy is precisely its inability, evidenced by the theory of commodity fetishism, to think about why these particular value-forms are generated in bourgeois society, wrongly supposing that it is in transhistorical “material categories” – a physiological understanding of labor rather than

²⁹ This problem has been very pointedly dealt with by *Théorie Communiste*, in an appraisal of the theoretical lessons to be drawn (or not) from the practices of social antagonism in Greece, in terms of “the confusion between circulation and transports.” As Théo Cosme writes: “circulation doesn’t have the same meaning for capital as for the gendarmerie. The confusion between circulation as a specific moment of the process of reproduction, which thus alternates with the phase of production, and circulation as the general form of the process of reproduction. In any case it is true that commodities and labor power must materially move from one point to another (exchange, in a strictly economic sense, in the capitalist mode of production, has little to do with this question) and that it is indispensable to the reproduction of capital. In fact, in the theory of capital as circulation, the strategy of the blockade rests on a theoretical foundation that does not correspond to its effective practice. This is not a serious problem so long as one is concerned with actions, but it becomes one when theories regarding the definition of productive labor and value are grafted onto these confusions. Blocking the traffic hinders the production of value because it necessarily has repercussions on it, not because it is in itself blocking the production of value. It would even be more accurate to say that it is not a blockade of the circulation, but of the production in the sense that transports are an extension of the immediate production process. The strategy of ‘blocking the traffic’ neither necessitates nor justifies any theoretical *aggiornamento*.” Théo Cosme, “The Glass Floor”, libcom.org/library/glass-floor-theorie-communiste.

labor-power, exchange separate from capital, and so on – that one can look for the clues to the structure and development of a mode of production.

Contrariwise, it is “the social function which is realized through a thing [that] gives this thing a particular social character, a determined social form, a ‘determination of form’ (*Formbestimmtheit*), as Marx frequently wrote.”³⁰ Marx’s remonstrations against those political economists who, in Rubin’s terms, cannot see the “social forms” lying “beneath” the “technical functions in the process of material production” are legion. Historical materialism is predicated on the rejection of the spontaneous materialism of the political economists. This is the impetus behind such seemingly anti-materialist declarations as this famous passage from Volume 1 of *Capital*: “The value of commodities is the very opposite of the coarse materiality of their substance, not an atom of matter enters into its composition.”³¹ The critique of “materialism” is also a key methodological postulate in Volume 2, for instance in Marx’s sardonic attempts on those who think that fixed capital, for instance, should be “fixed” in a common-sensically material sense of the term. This is how political economists go astray:

Firstly, certain properties that characterize the means of labor materially are made into direct properties of fixed capital, e.g. physical immobility, such as that of a house. But it is always easy to show that other means of labor, which are also as such fixed capital, ships for example, have the opposite property, i.e. physical mobility. Alternatively, the formal economic characteristic that arises from the circulation of value is confused with a concrete [*dinglich*] property; as if things, which are never capital at all in themselves, could already in themselves and by nature be capital in a definite form, fixed or circulating.³²

What’s more, those ships (say the new mega-containers lumbering their way onto the market and demanding huge outlays of public finances on the construction of the corresponding ports) may themselves be best understood as financial assets and not just physical capitals or commodities. What happens then if we consider the question of circulation less literally? And what would it mean to struggle not simply against material flows but against the social forms that channel them? Can we think of different types of struggle in terms of how they map onto the various meanings of circulation mentioned above?

³⁰ Isaak Illich Rubin, *Essays on Marx’s Theory of Value*, trans. M. Samardzija and F. Perlman (Montréal-New York: Black Rose Books, 1973), 37.

³¹ Karl Marx, *Capital, Volume 1*, trans. S. Moore and E. Aveling (London: Lawrence & Wishart, 1983), 54.

³² Karl Marx, *Capital, Volume 2*, trans. D. Fernbach (London: Penguin, 1992), 241.

On the one level, the notion that capital not in motion is no longer capital, or, as Marx rather stunningly puts it, that “continuity is a productive force of labour,” has important political resonances – though these are far more palpable in the creeping devastation of deindustrialization than in the successful blockade. On the other, the nature of capital is such that the arms race to lessen circulation times by deploying (and securitizing) vast circulatory apparatuses necessarily involves the hypertrophy of constant capital, dwarfing variable capital (proletarians) and revealing potentially paralyzing quanta of fixity as the price for accelerated circulation. I have recently tried to argue, in another piece for *Mute*, how in the real-estate politics and energetic difficulties plaguing the seemingly ethereal rise of high-frequency trading we could witness such a revenge of matter and space upon financial ideality – a revenge we can only understand in terms of certain social forms that are specifically capitalist.³³ In an economic field whose drive to instantaneousness seems to obliterate spatial difference, this corroborates, in the financial arena, a well-known observation from Marx’s *Grundrisse*:

The more production comes to rest on exchange value, hence on exchange, the more important do the physical conditions of exchange – the means of communication and transport – become for the costs of circulation. Capital by its nature drives beyond every spatial barrier. Thus the creation of the physical conditions of exchange – of the means of communication and transport – the annihilation of space by time – becomes an extraordinary necessity for it.³⁴

For the costs of financial circulation “physical conditions” are paramount – as manifested in the fierce competition over “co-located” server space, proximity to trading venues and access to data, and in related phenomena like the rush to acquire and develop real-estate for data centres. As mentioned above, Marx had already argued in volume 2 of *Capital* that transport is itself a domain of production, in which the commodity, as he puts it, “is the change of place itself” – revisiting this thesis in the light of financialization and the logistics revolution makes a politically overdetermined schematism separating production and circulation, the factory and the port, all the more difficult to sustain.

But I have as yet only glancingly dealt with a or perhaps *the* key player in the politics of circulation: the state. One of the strategic dangers of a politics of interruption is to think of the blockade as a kind of unmediated confrontation with or negation of the social form of value, of capital as a social relation, in which the state is either ignored or

³³ Alberto Toscano, “Gaming the Plumbing: High-Frequency Trading and the Spaces of Capital,” *Mute*, 16 January 2013, www.metamute.org/editorial/articles/gaming-plumbing-high-frequency-trading-and-spaces-capital.

³⁴ Karl Marx, *Grundrisse*, trans. M. Nicolaus (London: Penguin, 1973), 536.

reduced to the mesmerizing metonym of the cop. I'd like instead, simply by way of opening up another geographical and materialist avenue of inquiry, to sketch out how the very thinker who pioneered the analysis of the production of space also gave us some tools to think through the imbrication of logistics and the state – something easily verified, for instance, by the strategic panics and confusions regarding how to secure the flows of capital witnessed after 9/11. This is what Deborah Cowen has presented, in her illuminating work on logistics, as *the problem of September 12* – the collapse of cargo flow in the wake of that of the World Trade Center, showing the profound tear in the tactics and strategy of the capitalist state, spanning as they do still contradictory spaces.

Contradictions in the Logistical State³⁵

On the face of it, Henri Lefebvre's thesis about the emergence of a "state mode of production" (SMP) – as elaborated on the eve of the neoliberal surge in the four volumes of his *De l'État* (1976-78) – would appear to be a threadbare Marxist anachronism, a belated successor to twentieth-century efforts to think the convergence between liberal-capitalist and state-socialist or fascist political systems – Horkheimer's authoritarian state, Burnham's managerial revolution, Rizzi's bureacurization of the world, or Debord's integrated spectacle. Yet I would like to suggest that attending to the French philosopher's arguments about the spatial contradictions of the modern state can allow us to refine our understanding of the forms of power borne by logistics, the tensions they carry, and how they cannot simply be reduced to a direct expression of Capital.

For Lefebvre, the state is initially identified with a specific production of space, that of the national territory. This state does not have the "chaotic" characteristics of "private space." Moreover, unlike the nightwatchman state, it is a persistent agent of social reproduction; it "does not intervene in an episodic and circumscribed fashion but ceaselessly, through different organisms and institutions devoted to the management as well as the production of space."³⁶ This space is both homogeneous – everywhere subject to the same logic – and broken, shattered – by the logics of property, rent, social conflict, and the ensuing fragmentation. The logistical space of the SMP, like capitalist

³⁵ This concept of the "logistical state" is being promoted by some Brazilian political scientists as a vision beyond the developmental or the neoliberal state. It is also present in some stimulating historical speculations in Alain Joxe's *Empire of Disorder*, where it is juxtaposed to the "predatory state."

³⁶ Lefebvre, *De l'État*, vol. 4, 271.

space broadly construed, is homogeneous-broken [*homogène-brisé*]. Isn't this a paradox? No, says Lefebvre: "This space is homogeneous because everything in it is equivalent, exchangeable, interchangeable, because it is a space bought and sold and exchange only exists between equivalences and interchangeabilities. This space is broken because it is treated by lots and sections; sold by lots and sections, it is therefore fragmentary."³⁷

Logistical space, as conceived in Lefebvre's work of the 1970s, is prolonged by energetic space – beyond its specific economic and political investments in railways, roads and aerial space,³⁸ the state's relation to the production of energy is intimately linked to the production of a political space, state-space. This space is both a precondition of, and in contradiction with, the fragmented space of capitalist urbanization, and its attendant chaos. In the end, state action does not resolve spatial contradictions, it *aggravates* them, in the guise of synthesis and regulation. Its need to keep the flows smooth does not undo spatial chaos, or at best replaces it with social void. For Lefebvre, the logistical non-places of late capitalist modernity are thus byproducts of the spatial strategies of the capitalist state:

Wherever the state abolishes chaos, it establishes itself within spaces made fascinating by their social emptiness: a highway interchange or an airport runway, for example, both of which are places of transit and only of transit ... Armed with the instrument of logistical space, the State inserts itself between pulverized spaces and spaces that have been reconstructed differentially.³⁹

Space is thus the secret of the state in general and the SMP in particular. Lefebvre presented the space of the SMP as an anti-political space, organized to neutralize "users" (*usagers*), their movements, and the creation of differential spaces (these are all key themes in Lefebvre's writings of the 1970s, crystallized especially in the 1971 *Le manifeste différentialiste*). Two of the key vectors of this antipolitical space, which is the product and precondition of the state mode of production, are its logistical orientation, which reveals it as a space of catastrophe or potential breakdown, and its "visuality," which transforms space into a spectacle or series of images, in which the body

³⁷ Lefebvre, *De l'État*, vol. 4, 290.

³⁸ Volume of 1 of *De l'État* testifies to a sustained engagement with the revisionist history of the US state in the work of Gabriel Kolko, in particular his books *Railroads and Regulation, 1877-1916* (1965) and *The Triumph of Conservatism: A Reinterpretation of American History, 1900-1916* (1963). It would also be possible, following some remarks in the first volume of *De l'État*, to posit a prehistory of this logistical state in the "management of vast hydraulic spaces" (5) exercised by the Asiatic state postulated by Wittfogel, in his *Oriental Despotism*.

³⁹ "Space and the State," in *State, Space, World*, 238, 249.

disappears. Nonetheless, Lefebvre still wishes to maintain a dialectical foothold, allowing one to imagine the appropriation of state space for the sake of differential social practices. As he writes, the space of the SMP is “opposed to possible (differential) space and nevertheless leading towards it.”

At different points in his argument, Lefebvre qualifies this new space as phallic, optical, visual, homogeneous and broken, global and fragmentary, “logical-logistical.”⁴⁰ This is also the space in which capitalism organizes its *survie*, its living-on, its afterlife – through the *reproduction of the relations of production*. As Lefebvre would write in *The Survival of Capitalism*: “It is in this dialecticized (conflictual) space that the reproduction of the relations of production takes place. It is this space that reproduction produces, by introducing into it multiple contradictions.”⁴¹ The formula “logical-logistical” crops up at different points in Lefebvre’s notoriously sprawling and often slippery texts. In *The Production of Space*, for instance, he writes that logic and logistics both conceal latent violence.⁴² *De l’État* insistently links the two terms together. Without exploring Lefebvre’s complex engagement with logic and language,⁴³ we can note here that logistics designates in these texts not the military or capitalist practice of managing resources and circulation, but a particular, abstract representation of space – one which, however, is dialectically bound-up with spatial and political practices – namely the state’s oversight of stocks and flows – which are, so to speak, *concretely* logistical.

One possible name for this link between logistical representations and logistical practices is what in *The Survival of Capitalism* Lefebvre calls *aménagement* (a term used in urbanism to denote planning or layout). “To the extent that it is represented by naming it *aménagement*,” he writes, “the production of space is considered logically or logistically.”⁴⁴ This *aménagement* is responsible for the reproduction of means of production and of production relations, for organizing the “environment” of firms, for setting out a “puzzle” of cities and regions, for spatially organizing life itself. Elsewhere, Lefebvre refers to this same set of issues under the heading of a “spatiotemporal

⁴⁰ See, for instance, “Space and the State” (1978), in *State, Space, World*, 238. Consider also Lefebvre’s claim that logistical space “devastate” perspectival space in a manner analogous to how perspectival space “catastrophically devastated” symbolic space. *State, Space, World*, 248.

⁴¹ Henri Lefebvre, *La survie du capitalisme. La re-production des rapports de production*, 2nd ed. (Paris: Anthropos, 1973), 24.

⁴² Henri Lefebvre, *La production de l’espace* (Paris: Anthropos, 1974), 414.

⁴³ See, among others, Henri Lefebvre, *Logique formelle, logique dialectique* (Paris: Éditions Sociales, 1947) and *Le langage et la société* (Paris: Gallimard, 1966).

⁴⁴ Lefebvre, *La survie du capitalisme*, 35.

programming” which requires the knowledge of flows, circulation and terrain.⁴⁵ Logistics, broadly construed, is a critical field for the reproduction of the relations of production, in which the state intervenes as producer of capitalist space. This logistical imperative – to lay out the space of stocks and flows for the optimal reproduction of capitalist relations – involves the state precisely to the extent that reproduction is not a matter of logic, but of *strategy*.⁴⁶

In this regard the “logical-logistical” – as we’ve already noted in our discussion of Bernes – is also a fantasy, albeit a partially realized one, about the possibility to master spatial reproduction for the sake of state and capital.⁴⁷ Such is the lure of abstraction: if the science of space “is a science of formal space, of a spatial form,” Lefebvre writes, “it implies a rigid logistics, and this science would consist of nothing but the constraints placed on the contents (the people!).” Behind this theoretical and mental abstraction, however, lies the sedimentation of really abstract social practices: “If space has an air of neutrality and indifference with regard to its contents and thus seems to be ‘purely’ formal, the essence of rational abstraction, it is precisely because this space has already been occupied and planned, already the focus of past strategies, of which we cannot always find the traces.”⁴⁸ “Systems of equivalence take on a sensible existence and are inscribed in space.”⁴⁹ The persistence of contradictions, which themselves are the product of a logical-logistical imperative, means that the science of space “does not

⁴⁵ Henri Lefebvre, “Reflections on the Politics of Space” (1970), in *State, Space, World: Selected Essays*, ed. N. Brenner and S. Elden, trans. G. Moore, N. Brenner and S. Elden (Minneapolis: University of Minnesota Press, 2009), 171.

⁴⁶ Lefebvre, *La survie du capitalisme*, 36. Strategy is a crucial prism through which Lefebvre understands the state, for instance when he argues that, to the extent that the economy is *étatisée* in becoming a war economy: “Today, the economy functions strategically.” *De l’État*, vol. 1 (Paris: UGE, 1976), 69.

⁴⁷ At times, Lefebvre does suggest that these tendencies can really evacuate use-values and neutralize agency, as in the remarkable essay “Space: Social Product and Use Value” (1979), where he writes: “capitalist and neo-capitalist space is a space of quantification and growing homogeneity, a commodified space where all the elements are exchangeable and thus interchangeable; a police space in which the state tolerates no resistance and no obstacles. Economic space and political space thus converge toward the elimination of all differences.” *State, Space, World*, 192.

⁴⁸ Lefebvre, “Reflections on the Politics of Space,” 169-70.

⁴⁹ Lefebvre, “Space and Mode of Production” (1980), in *State, Space, World*, 213. On Lefebvre and abstraction, see the excellent discussion in Chapter 3 of Lukasz Stanek, *Henri Lefebvre on Space: Architecture, Urban Research, and the Production of Theory* (Minneapolis: University of Minnesota, 2011).

have a logistics of space as its culmination”⁵⁰ – where logistics entails an all-encompassing intelligibility and control of a homogeneously coded space, from whence the negativity of practices and struggles has been stripped out.

State space is understood as a space of flows and stocks, logistically organized and controlled for political ends; it reorganizes social relations of production in function of their spatial support. The state tends to oppose a chaos of fragmentary relations – which it has itself created – with a rationality in which space is the privileged instrument, and in which economics is reconceived spatially (in terms of stocks and flows, but also rents and real estate). As Lefebvre writes: “The state tends to control flows and stocks, assuring their coordination. In the course of this process, which has a threefold aspect – growth, namely increase in the productive forces; urbanization, that is formation of giant units of production and consumption; spatialization – a qualitative leap takes place: the emergence of the SMP (state mode of production).”⁵¹ Or, in another illuminating formulation:

In the chaos of relations among individuals, groups, class factions, and classes, the State tends to impose a rationality, its own, that has space as its privileged instrument. The economy is thus recast in spatial terms – flows (of energy, raw materials, labor power, finished goods, trade patterns, etc.) and stocks (of gold and capital, investments, machines, technologies, stable clusters of various jobs, etc.). The State tends to control flows and stocks by ensuring their coordination. ... Only the State can control the flows and harmonize them with the fixed demands of the economy (stocks), because the State integrates them into the dominant state it produces.⁵²

Especially as Lefebvre turns to the present, he is sensitive to the state’s contradictory trespassing of confines of the national territory in the process of its *mondialisation* – a “globalization” which is not, as commonly understood, beyond the state, but rather of

⁵⁰ Lefebvre, “Reflections on the Politics of Space,” 172.

⁵¹ Henri Lefebvre, *De l’État*, vol. 4 (Paris: UGE, 1978).

⁵² Henri Lefebvre, “Space and the State,” in *State, Space, World: Selected Essays*, ed. N. Brenner and S. Elden, trans. G. Moore, N. Brenner and S. Elden (Minneapolis: University of Minnesota Press, 2009), 226, 239.

the state, in ways that can allow us also to rethink the tendency to take logistics as an instance of the state's loss of predominance.⁵³ Consider the following:

Through organization and information, there is produced a kind of unification of world space, with strong points (the centres) and weaker and dominated bases (the peripheries). In these latter zones are perpetuated differences that, for better and for worse, resist but do not paralyse the process as a whole. The latter is translated through efficient apparatuses [*dispositifs*] of control and surveillance, linked to informational machines: satellites, radars, beacons, and grids. In this respect, space has a much stronger connection with the State than territory once had with the nation.⁵⁴

This spatialization of the state is not just projective, but endogenous. In other words, as the state becomes increasingly occupied by the logistical problems of stocks and flows, we cannot think of it as concentric, centripetal or centrifugal. Though it is inseparable from effects of centring and centrality, it is capable of considerable dissemination and multiplicity, as well as internal contradiction, if not proper *difference*. In the first volume of *De l'État*, interestingly in the context of an exploration of the place of "intelligence" in the state mode of production (one resonating in the moment of Assange and Snowden), Lefebvre will posit that the state is not a system with a central nucleus but a hierarchically-ordered *network* of institutions and organizations intervening at different levels of society, and thus of space.

Conclusion

The foregoing discussion of Lefebvre is but a sketch of a reconstruction, whose aim was merely to complicate the political meanings accorded to logistics in contemporary radical thought and practice. To rethink logistics not just as a spatio-political fix for a potentially stagnating capitalism, but as a contradictory strategy of state power – a task that would obviously require a radical updating and revision of Lefebvre's unruly intuitions – could help us to move beyond both the naïve perspective of its integral refunctioning as well as the untenable prospect that it will be the privileged site of a revolutionary interruption of value-in-motion. Technology, as a social relation of

⁵³ See for instance Cowen, when she writes that "Whereas the national border (the privileged spatial barrier within a territorial model of security) was governed directly by the geopolitical state, the security of the corridor cartography of the supply chain is delegated to the components of the system." *The Deadly Life of Logistics*, 87. I think that we could apply Lefebvre's state-theory to think of these components as still *of the state*, in an extended sense. On the whole issue of *mondialisation* in Lefebvre, see Brenner and Elden's fine editors' introduction to *State, Space, World*.

⁵⁴ Henri Lefebvre, "Space and Mode of Production," 213-14.

production, distribution, and circulation, is by no means innocent of capitalist value-imperatives and of the strategic expediencies of exploitation. But neither is the reproduction of the social forms of value endangered by the notion that the interruption of capital's motion is directly political. Lefebvre's scattered insights on the logistical and strategic space of the state can help situate the contemporary surge of struggles at the point of circulation within a broader historical and geographic horizon, spurring us to investigate what the state itself has become in the age of the "logistics revolution," and thus what strategies may be adequate to struggles in and against it. 🇷🇺

The Belly of the Revolution

Agriculture, Energy, and the Future of Communism

J a s p e r
B e r n e s

In the days when man's members did not all agree amongst themselves, as is now the case, but had each its own ideas and a voice of its own, the other parts thought it unfair that they should have the worry and the trouble and the labour of providing everything for the belly, while the belly remained quietly in their midst with nothing to do but to enjoy the good things which they bestowed upon it; they therefore conspired together that the hands should carry no food to the mouth, nor the mouth accept anything that was given it, nor the teeth grind up what they received. While they sought in this angry spirit to starve the belly into submission, the members themselves and the whole body were reduced to the utmost weakness. Hence it had become clear that even the belly had no idle task to perform, and was no more nourished than it nourished the rest, by giving out to all parts of the body that by which we live and thrive, when it has been divided equally amongst the veins and is enriched with digested food —that is, the blood.¹

Many on the left still subscribe to a view of technology that G.A. Cohen, in his reconstruction of Marx's thought, called "the fettering thesis."² From this perspective, the technological forces that capitalism employs in its quest for productivity-driven profit are the foundation upon which an emancipated humanity will erect its new dwelling. Humane cultivation of these forces is, however, "fettered" by capitalist social relations. Capitalism is pregnant with *what could be*, a conditional tense deployment of given productive forces. In a resonant moment of triumphal phrasing at the end of the first

¹ In Livy's history of the Roman republic, patrician Menenius Agrippa relays this older Greek fable of the body politic to the plebeians who have seceded from Rome in protest and encamped on a nearby mountain. Livy, *History of Rome: Books 1-2*, trans. B. O. Foster, Loeb Classical Library, no. 114 (Cambridge, MA: Harvard University Press, 1948), 253.

² G.A. Cohen, *Karl Marx's Theory of History: A Defence* (Princeton, NJ: Princeton UP, 1978), 326–341. For a critical response to the technicism of Cohen, see chapters 2 and 3 of Derek Sayer, *The Violence of Abstraction: The Analytic Foundations of Historical Materialism* (Oxford, UK: B. Blackwell, 1987).

volume of *Capital*, Marx describes capitalism as tending toward a moment of crisis, its property relations an “integument...burst asunder” by the maturation of increasingly centralized and concentrated productive forces. The consequences, for Marx, are clear:

“the knell of capitalist property sounds. The expropriators are expropriated.”³ At a critical point in the development of capitalism, the fragmented, unplanned allocation of wealth that characterizes production for profit in competitive markets no longer conforms with the complex, industrialized labor process of modern workplaces: only socialist planning and the supervision of the direct producers themselves can make effective use of the technology whose adolescence the bourgeoisie oversaw. Today, many will advance these arguments only with significant caveats, avoiding some of its more embarrassing iterations. Few would argue, for instance, that the deskilled, socialized labor of the factory system contains the germ of a new world in the making. They will not hesitate, however, to pour new wine into old bottles and say much the same thing about 3D printers and self-driving cars.

The fettering thesis appears throughout Marx’s mature writings, especially in those rare, speculative moments when he considers the transition to communism. It sits uneasily, however, with a view developed most pointedly in his writing on large-scale machinery, in which the factory system actualizes capital’s control over labor, confiscating “every atom of freedom, both in bodily and in intellectual activity.”⁴ For much of the twentieth century, the fettering thesis dominated left thinking about technology. Beginning in the postwar period, however, numerous Marxists set to work developing a critical theory of technology. Herbert Marcuse, Raniero Panzieri, and Harry Braverman, as exponents of the critical insights offered by the Frankfurt School, *operaismo*, and labor process theory, respectively, revealed the many ways in which the productive forces of capitalism were saturated with the political imperatives of capitalism.⁵ Today, few people can fully ignore this critical legacy. Even the “accelerationist” authors of *Inventing the Future*, whose primary hypothesis consists of a hyberbolic deployment of the fettering thesis, acknowledge that contemporary

³ Karl Marx, *Capital: Volume 1: A Critique of Political Economy* (New York: Penguin Classics, 1992), 929.

⁴ Ibid., 549.

⁵ Harry Braverman, *Labor and Monopoly Capital* (New York: Monthly Review Press, 1975); Raniero Panzieri, “The Capitalist Use of Machinery: Marx Versus the Objectivists,” in *Outlines of a Critique of Technology* (London: Ink Links, 1980), 44–69; Herbert Marcuse, *One-Dimensional Man: Studies in the Ideology of Advanced Industrial Society* (Boston: Beacon Press, 1991).

technology is sometimes inextricable from capitalist function at the level of design.⁶ Their solution seems to be a sort of mix and match theory of transition, in which we discard unusable technologies (nuclear weapons: bad) and cultivate useful ones (antibiotics: good). Such a view is possible, however, only if one thinks of technology as a series of discrete tools, rather than an ensemble of interconnected systems. I have attempted elsewhere to intervene in this discussion by providing a different way of looking at the problem.⁷ Rather than assume the Olympian point of view and ask ourselves what we would do with given technologies, if we were allowed to rearrange things as we wish from one end of the earth to the other, we need to start with a much more difficult question: how do revolutionary struggles beginning in the here and now find a way to meet their needs, survive, and grow, while producing communism? Looked at from this perspective, there may indeed be arrangements of given productive means that are impossible because there is no way for them to unfold as the result of class struggle. History is, in this sense, like a board game in which there are appealing configurations of pieces that the rules render impossible. These arrangements can never result from a sequence of play.⁸

The standard assumption among Marxists and many others is that, despite its toxic excretions, the more developed technology becomes the easier it will be to produce communism. But what if these technologies actually make it harder? What if they are also fetters, blocking attempts to break free from class society? This is obvious when it comes to the technologies for repression, surveillance and warfare, which have effectively removed certain revolutionary strategies from play. But consider, for example, the energy system upon which industrial and post-industrial capitalism is built. Few people doubt that fossil energy use drives climate change by packing the air with greenhouse gases, and that these effects will massively constrain human and extra-

⁶ Nick Srnicek and Alex Williams, *Inventing the Future: Postcapitalism and a World Without Work* (Brooklyn, NY: Verso, 2015). See in particular the section “Repurposing Technology” at the end of Chapter 7, which engages with my argument in Jasper Bernes, “Logistics, Counterlogistics, and the Communist Prospect.” See page 27 of this volume.

⁷ Bernes, “Logistics, Counterlogistics, and the Communist Prospect.”

⁸ I am thinking here of the concept, in evolutionary game theory, of “evolutionarily irrelevant equilibria.” While most neoclassical microeconomics and game theory models situations of equilibrium, these disciplines rarely consider how such stable states may be arrived at from an out-of-equilibrium situation. Evolutionary game theory tries to distinguish between equilibria that are viable, that might emerge from an out-of-equilibrium situation, and those that are not. Samuel Bowles, *Microeconomics: Behavior, Institutions, and Evolution* (Princeton, N.J.: Princeton University Press, 2004), 63.

human life over the course of the twenty- first century and beyond. The problem is that the energy system and the technology it powers is not at all modular; it is not possible to swap out dirty energy and swap in clean energy, even if all political obstacles were removed and some polity found itself able to rearrange the building blocks of industrial society as it saw fit. The technology they would inherit works with and only with fossil fuels. This lack of modularity is clearest in the case of the more than one billion vehicles built around combustion engines; these can be replaced by non-fossil energy only by manufacturing batteries through highly energy -and resource- intensive processes. At present, even if one were to ignore everything but the arithmetic of greenhouse gases—and given the highly destructive mining processes these batteries require, this means ignoring quite a bit—the benefits of such an energy transition are uncertain, especially if overall energy use continues to grow year on year. As for electricity itself, while one can generate it from cleaner, renewable sources such as wind and solar, the inconsistency of these sources means that, if people want continuous, on-demand energy (and most current technology requires it) they would need to invest massively in resource and energy-intensive technologies for storage and or transmission that would render the emissions-reducing benefits of such reconfiguration uncertain. The technologies of capitalism fit together into technical ensembles that exhibit a strong degree of *path-dependency*, meaning historical implementation strongly influences future development, precluding or making difficult many configurations we may find desirable. The authors of *Inventing the Future* are, by contrast, path autonomists. Their blindness to the way that technological systems fit together into non-modular ensembles is what leads them to assert, incredibly, that “clean energy technologies make possible virtually limitless and environmentally sustainable forms of power production.”⁹

The fettering thesis continues to manacle thinking about revolution and technology in part because no alternative perspective has been consolidated. In the pages that follow, I build upon my previous work and consider the obstacles, infrastructural and technological, that a twenty-first century revolution will encounter. I take as my primary object of inquiry agriculture and the food supply chain, the belly of the revolution, as I call it, not only because revolutions will either provision themselves or die but because agriculture and food supply depend upon all the other technical systems of industrial capitalism: energy supply, manufacturing, logistics. In the ancient political fable I use for my epigraph, the belly admonishes the rebellious organs of the body, reminding them that if they revolt they die, since all nourishment passes through the belly before being distributed outward. This is the counter-revolutionary lecture that capitalism continually whispers into the ears of would-be rebels; its words are the the technical arrangement

⁹ Srnicek and Williams, *Inventing the Future*, 5.

of the means of production, the organization of the land and its powers.¹⁰ The two “revolutions” capital effected in the last half of the twentieth century—the green revolution and the logistics revolution—are really counter-revolutions. Together, they have reorganized agriculture and the food supply system in such a way that revolutions must break with them or perish. Furthermore, as I will show, although many leftists continue to believe that these technologies provide the basis for an ecological reorganization of industry capable of warding off the worst effects of capital’s ecological destabilization, whether within capitalism or beyond it, these hopes are misplaced. Our best hope is communism, and communism means, as we will see, breaking the spine of this industrial infrastructure and ending the tyranny of the belly.

In order to respond to these old agrarian fables, we need a new theory of technology, one that reckons with path-dependency. We also need to return to an insight that has been lost but which was at the center of Marx’s thinking—technology *is* nature, an organization of natural elements and powers.¹¹ The productive forces are social forces through and through, determined by the *social* relations of capitalism, but they are also *natural* forces. Technology utilizes, reconfigures, and shapes nature, but part of what a path-autonomous view of technology overlooks is that the qualities and characteristics of natural forces themselves, along with social relations, determine the range of possible uses a technology affords. Here I find two new contributions to Marxist ecology, Andreas Malm’s *Fossil Capital* and Jason Moore’s *Capitalism in the Web of Life*, quite helpful.¹² Malm argues that the direction of capitalist development and industrialization was influenced by the difference between coal- fueled steam power and the water power that preceded it. As technologies, coal power and water power feature entirely incongruent profiles that have to do with the different natural forces they recruit as much as the social relations through which these natural forces are organized and developed; capitalist development selects from and eventually synthesizes these forces,

¹⁰ Marx, *Capital*, 1992, 481–2.

¹¹ Notice how, for Marx, capital’s power is an scientific organization of natural forces against labor, establishing a ternary rather than purely binary relation: “The special skill of each individual machine-operator, who has now been deprived of all significance, vanishes as an infinitesimal quantity in the face of the science, the gigantic natural forces and the mass of social labour embodied in the system of machinery, which, together with these three forces, constitutes the power of the ‘master.’” Ibid., 548.

¹² Andreas Malm, *Fossil Capital: The Rise of Steam-Power and the Roots of Global Warming* (Brooklyn, NY: Verso, 2016); Jason W Moore, *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* (Brooklyn, NY: Verso, 2015).

based not only upon their ability to meet human needs but upon their fit with the imperatives of accumulation. Steam power cannot be made to do what water-power can do, nor vice-versa. The limits these technologies present to those who would adapt them are double: they have to do with their social character but also the material character of the powers and forces they use.

The natural and the social are not two separate layers, one base and the other superstructure, but intermixed. In Jason Moore's account, capitalism is a way of "organizing nature;" capitalist reproduction involves the reproduction of certain social relations and institutions as well as the reproduction of nature in forms conducive to capitalist accumulation. Moore for his part emphasizes what he calls "the double internality" of "humanity-in-nature/nature-in-humanity."¹³ Reprising Marx's own dialectical understanding of human labor, where "man acts upon external nature and changes it, and in this way...simultaneously changes his own nature," Moore reminds us that humans are animals, whose social and cultural forms regulate a constant transformation of the material world, including themselves.¹⁴ An attentive reader of Justus Von Liebig's works on soil chemistry, Marx borrowed from Liebig the term *stoffwechsel*, metabolism, and used it to describe human activity in the most expansive sense.¹⁵ Liebig's term helped Marx to think about the transformative character of human activity, "a process between man and nature, a process by which man, through his own actions, mediates, regulates, and controls the metabolism between himself and nature."¹⁶ Largely associated now with biological processes internal to human bodies, metabolism is a particularly salutary concept for thinking the double internality. Metabolism captures the connection between the social belly and the belly as such. Neither Malm nor Moore put things in exactly this way but the implications are clear: the productive forces of capital are natural forces, their productivity derives not only from the organization of people and processes but also from the characteristics of various material elements, from powers of water, earth, air, and fire, from biological, chemical,

¹³ Moore, *Capitalism in the Web of Life*, 5.

¹⁴ Karl Marx, *Capital: Volume 2: A Critique of Political Economy* (New York: Penguin, 1993), 283.

¹⁵ For a fascinating history of the metabolism concept, see Hannah Landecker, "The Biology of History: From the Body as Machine to the Metabolic Community," (Talk, IAH, Boundaries of the Human in the Age of Life Sciences, November 6, 2015). Parts of this essay began as a response to Landecker's talk: sites.psu.edu/iahboundaries/jasper-bernes/. Many thanks to Heather Davis and Michael Berubé for the invitation.

¹⁶ Marx, *Capital*, 1992, 283.

and physical processes, from gravity, electro-magnetism, and the forces internal to atoms.

Town, Country, and the Double Internality

The romantic or post-romantic perspective on these matters opposes nature and technology—the machine in the garden and against the garden, the tractor as leveler of wilderness. But the garden is also a machine, a way of organizing nature. In a certain sense, the difference between these views is semantic. If nature means a forest, then it makes sense to see it as opposed to technology. If nature means something like fire, though, then it is easy enough to see it as both a spontaneously emerging extra-human force and a human technology. Agriculture and the food system mediate between these different meanings of the word “nature,” since a farm is a collection of living things organized toward human needs, and unlike an oil refinery much more clearly both social and natural.

Agriculture is also the place where the relationship between capitalist social relations and labor-saving innovation is first established, as Robert Brenner’s persuasive account makes clear. Brenner’s writing on the transition to capitalism is, among many things, an argument against technicism and against the “fettering” thesis.¹⁷ The emergence of capitalism in the English countryside did not naturally evolve through the increase-seeking decisions of peasants and lords, such that the underlying productivity gains in agriculture made feudal property rights into “fettters.” All things being equal, the direct producers and their exploiters under feudalism would struggle against each other in ways that stabilized feudal relations and inhibited increased productivity. Only a shock to this system could introduce a new set of specifically capitalist property relations in which producers were compelled to exchange their product on a competitive market in order to reproduce themselves. Medieval agriculture relied on fallowing to restore soil fertility, but in the sixteenth century a new agricultural regime emerged, chiefly in the Netherlands and England, based on crop rotation rather than fallowing. Planting of fodder crops would follow the planting of cereals, with no rest for the land. This had two advantages for soil fertility— the fodder crops, such as clover and alfalfa, were nitrogen-fixing rather than depleting, but they also fed animals that produced manure and thus fertilized the soil. Peasants were unable to adopt the system, however, given the open

¹⁷ Robert Brenner, “Property and Progress: Where Adam Smith Went Wrong,” in *Marxist History-Writing for the Twenty-First Century*, ed. Chris Wickham (London: British Academy, 2007), 49–111.

field system of property rights, where fallow lands were common property on which anyone could graze their animals. If anyone tried to plant fodder crops there, they would run the risk of having them eaten by someone else's animals. Furthermore, the new system required more animals, not only to graze on and fertilize the newly cultivated lands, but also to replace human labor, since the activity required per cultivated acre increased massively in the crowded calendar of the crop rotation system, with more animals and lands require care and work.¹⁸ Most peasant producers were without these resources, relying on the labor of a single family and, at most, one or two animals. For all these reasons, crop rotation was adopted in the sixteenth century only when common lands were enclosed and the peasants turned into wage-laborers who could then be set to work on larger, non-fallowing farms involving increased animal power and new tools. As yields per acre and per worker increased, the peasants whose lands had been enclosed were no longer needed as agricultural wage laborers. This provided the engine for development elsewhere. As the productivity of labor in the countryside increased, ex-peasants dispossessed of their right to the land migrated to the towns, forming the labor pool for industry. Fed by the surplus of grain and meat, the towns fattened into cities. The takeaway here is that the reorganization of human society prompts a reorganization of nature. Changes in the relations of production prompt a change in the productive forces, whereas the fettering thesis imagines the reverse.

Agriculture is a complicated area of study in part because it is easy to confuse two important forms of technical change—land-saving innovations, which increase yield per acre, and the more familiar labor-saving innovations which increase yield per worker. The first agricultural revolution involved both types but the chief importance of the crop rotation system was in land-saving. Afterward, and until the twentieth century, land-saving innovations were few and far between. Most of the important agricultural innovations of the nineteenth century were labor-saving and involved better use of draft animals through new tools and motorless machines for plowing, cultivating, and harvesting.¹⁹ Moore argues that nineteenth-century increases in yields came primarily from aggressive farming on heretofore uncultivated land in the Americas, stripping it of nutrients and then moving on to new plots once the fertility plummeted.²⁰ The nineteenth century also saw a scramble for fertilizer imports—first guano from South American

¹⁸ Marcel Mazoyer and Laurence Roudart, *A History of World Agriculture: From the Neolithic Age to the Current Crisis* (New York: Monthly Review Press, 2006), 313–353.

¹⁹ *Ibid.*, 355–372.

²⁰ Moore, *Capitalism in the Web of Life*, 248.

islands, then saltpeter from South American deserts, but these extractable deposits were scarce and the imminent depletion of these resources formed the context for Marx's reading of Von Liebig and his critical commentary about the self-undermining character of capitalist agriculture. For Marx, the nineteenth-century crisis of soil fertility originated first and foremost from the division between town and country, which the transition to capitalism from agrarian society deepened rather than overcame. By concentrating workers and the natural fertilizers they produce in cities, capitalism "disturbs the metabolic interaction between the man and the earth, i.e., it prevents the return to the soil of its constituent elements consumed by man in the form of food and clothing; hence it hinders the operation of the eternal condition for the natural resource of the soil."²¹

As Marx saw it, the solution to this problem, the re-balancing of the metabolic interaction between humans and the land, involved a revolutionary project that has largely been forgotten despite its centrality to most nineteenth-century conceptions of society after capitalism: the overcoming of the division between town and country, returning human excrement to the land from whence it came. People forget that this was one of the revolutionary measures (many of them comparatively modest, and easily incorporated by liberal reformism) outlined by Marx and Engels' *Communist Manifesto*: "Combination of agriculture with manufacturing industries; gradual abolition of the distinction between town and country, by a more equable distribution of the population over the country."²² The first part has already been achieved by today's factory farms and industrialized food systems, but once we read on we see that Marx and Engels imagined something very different: the breaking-up of big cities, the localization and dispersal of food production, so that it was close to where people actually lived, and the dispersal of industry throughout the countryside, so that its polluting effects were mitigated. This was not a passing fancy but something that Marx and Engels referred to continuously from 1848 on, taken up by many of the socialists they influenced. Today, questioning urbanization or imagining the destruction of cities as part of a communist revolution is seen by accelerationists and other proponents of the fettering thesis as concomitant with primitivism, despite the centrality of these objectives to the nineteenth-century radical tradition.

Finding agreement on this point with the utopian socialists he typically criticizes, Engels puts it rather pointedly in *Anti-Dühring*:

²¹ Marx, *Capital*, 1992, 637.

²² Karl Marx, Friedrich Engels, and Gareth Stedman Jones, *The Communist Manifesto*, Penguin Classics (New York: Penguin Books, 2002), 244.

The abolition of the antithesis between town and country is not merely possible. It has become a direct necessity of industrial production itself, just as it has become a necessity of agricultural production and, besides, of public health. The present poisoning of the air, water and land can be put an end to only by the fusion of town and country; and only such fusion will change the situation of the masses now languishing in the towns, and enable their excrement to be used for the production of plants instead of for the production of disease.²³

For Engels, this does not mean isolated, autarkic villages. He remains a proponent of decentralizing some productive processes and centralizing others. Bebel, discussing the same thematic in his book *Women and Socialism*, notes that it is “due to the complete remodeling of the means of communication and transportation...that the city populations will be enabled to transfer to the county all their acquired habits of culture, to find there their museums, theaters, concerts halls, reading rooms, libraries.”²⁴ The abolition of town and country requires extensive coordination, and the communication of both goods and information. However, some things do not need to be and should not be so communicated. He continues:

Each community will, in a way, constitute a zone of culture; it will, to a large extent, itself raise the necessities of life. Horticulture, perhaps the most agreeable of all occupations, will then reach the fullest bloom. The cultivation of vegetables, fruit trees, and bushes of all nature, ornamental flowers and shrubs—all offer an inexhaustible field for human activity, a field, moreover, whose nature excludes machinery almost wholly. Thanks to the decentralization of the population, the existing contrast and antagonism between the country and the city will also vanish.²⁵

On this point, contrary to received opinion, the Second International writers share a good deal with anarchist communists such as Piotr Kropotkin and Elisée Reclus, who also imagined an intermingling of industry and agriculture and, contrary to later mischaracterizations, saw need for a balance between self-sufficiency and communist

²³ Quoted in CDW, “The Transformation of Social Relations,” *International Review* 14, no. 25 (1996).

²⁴ August Bebel, *Woman under Socialism* (New York: New York Labor News Press, 1904), 316.

²⁵ Quoted in CDW, “The Transformation of Social Relations.”

distribution among productive sites.²⁶ The difference between the anarchists and the Marxists will of course concern the mechanisms whereby such coordination is achieved. Even on this point, however, Marx and Engels were less statist than many supposed, locating the ultimate power of decision in the hands of the people themselves, though both did have more faith in the possibility of a layer of administrators and technicians who could decide what goes where.²⁷

Moore argues that interpreters of Marx's writings on metabolism have reinstated a Cartesian duality (society vs. nature) that the concept was meant to transcend.²⁸ In places, Marx describes an "irreparable rift in interdependent processes of social metabolism," a formulation that has sometimes been read as describing a rift between nature and humans rather than, as Moore has it, a rift within "singular metabolism."²⁹ The split between town and country becomes, in this reading, an ontological split between humanity and nature. What Moore proposes in the place of this cloven understanding is a picture of human and extra-human nature as a "flow of flows of matter and life."³⁰ Humans are biological organisms, Moore reminds us, whose activity, building up matter into bodies and transforming living and non-living things, is regulated by language and culture and other oddly powerful mediations such as value. But thinking the unity of humanity and nature does not overcome the practical rifts in this flow of flows; it does not overcome the division between town and country, which is a real break within matter, not merely a theoretical one. For Marx, there was no contradiction between thinking humanity as a part of nature *and* separate from nature; this was because, at a practical level, humans were a part of nature that had separated itself from nature. Through labor "man regulates and controls the metabolism between himself and nature" and at same time "confronts the materials of nature as a force of

²⁶ Marshall S. Shatz, *Kropotkin: "The Conquest of Bread" and Other Writings* (Cambridge, UK: Cambridge University Press, 1995), 68–74; Elisée Reclus, *The Evolution of Cities* (Petersham, Australia: Jura Books, 1995), libcom.org/files/Reclus%20-%20The%20Evolution%20of%20Cities.pdf.

²⁷ See Kristin Ross's writings on the aftermath of the Commune for an account of the way these themes cut across the lines drawn between anarchists and Marxists. Kristin Ross, *Communal Luxury: The Political Imaginary of the Paris Commune* (Brooklyn, NY: Verso, 2015).

²⁸ Moore, *Capitalism in the Web of Life*, 75–91.

²⁹ Karl Marx, *Capital: Volume Three* (New York: Penguin, 1991), 949.

³⁰ Moore, *Capitalism in the Web of Life*, 84.

nature.”³¹ This is not an epistemological division so much as a real one, and dealing with its effects requires practical reorganization of the relationship between humans and nature, not a mere rethinking of the problematic. Moore has little to say about this practical reorganization, and misses what is a fundamental point for those of us investigating these matters from a revolutionary perspective: the abolition of the division between town and country and the metabolic rift stands as part of the *realization* of the double internality, the instantiation of a state of affairs in which humans no longer stand over and against external or internal nature.

Filling in the Rift

The union of industry and agriculture that Marx and Engels and others advocated has happened, but not at all in the way they imagined. In one sense, the old oppositions between town and country have vanished in the developed world and in most of the developing world too. One can browse the web via smartphone from almost any backcountry road. Farms operate with million-dollar machines as complex as those in any factory. And yet, the rifts remain, widening every year; our food travels ever-greater distances from farm to table and undergoes complex industrial processes before being digested by us. The fundamental issue which Marx and Engels identified, that the resources which are taken from the soil are not returned to it, remains with us in a transmuted form. Soil fertility is limited first and foremost by the amount of biologically available nitrogen; such nitrates and nitrites and ammonia are produced regularly from atmospheric nitrogen by bacteria, a process that can be sped up by certain crops, such as legumes. Biologically available nitrogen is also found in decaying plant material and in manure and human waste. The rate at which nitrogen can be converted to a usable form is limited, however, and even the most careful management of inputs and waste material runs the risk of depleting the soil. Without nitrogen, plants cannot produce protein, and without plant protein humans and other animals cannot produce themselves.³² The nitrogen cycle is “singular metabolism” in a very basic sense, a chain

³¹ Marx, *Capital*, 1992, 283. For an dialectical exploration of these themes oppositions and syntheses, see Alfred Schmidt, *The Concept of Nature In Marx* (Brooklyn, NY: Verso, 2014).

³² For a discussion of the nitrogen cycle and its manipulation by humans throughout history, see Vaclav Smil, *Enriching the Earth: Fritz Haber, Carl Bosch, and the Transformation of World Food Production* (Cambridge, MA: MIT Press, 2001). Nearly every agriculture system has emerged as an attempt to conserve or, in the case of slash-and-burn, gain biologically available nitrogen, as well as other important nutrients (phosphorus, potassium). For a history of these systems, see Mazoyer and Roudart, *A History of World Agriculture*.

of biochemical reactions moving from the air to soil and back to air, passing through the bodies and bodily excretions of plants, animals, and humans. In the twentieth century, the limits of various systems of managed organic inputs, such as the crop rotation discussed above, were radically transcended by the invention of the Haber-Bosch process, which uses natural gas to convert atmospheric nitrogen into ammonia. As such, the amount of nitrogen now available is constrained only by the supply of natural gas. The invention of nitrogen-fixing technology averted the imminent crisis of soil fertility Marx and Engels identified, obviating the need to return organic wastes to the land, and therefore widening the metabolic rift while filling it in with megatons of synthetic fertilizer.

One of the most intriguing moments in *Fossil Capital* may help us theorize the shift to synthetic nitrogen, developing our sense of the ways in which productive technologies incorporate both social and natural forces whose character strongly determines their possible use. Malm helpfully extends Marx's categories of formal and real subsumption in order to explain the difference between water power and steam power.³³ Most attempts to expand these important categories misconstrue their original meaning for Marx, or attempt to make them the basis of an impossible periodization.³⁴ Subsumption is often seen as identical to commodification – that is, producers are subsumed when they are made market-dependent and begin to produce for exchange. Subsumption as Marx defines it, however, has to do with the labor-process and with capital's control over workers. Formal subsumption occurs when capitalists take over an existing labor-process, owning the means of production that peasants or artisans formerly possessed as well as the products generated by those means of production, and paying wages out of the revenue they earn. Yeoman farmers or artisans who produce for the market, using their own labor, would not in this sense be formally subsumed, even though the products of their labor were commodified. Real subsumption occurs when capitalists not only own but reorganize and materially transform the means of production, in order to increase productivity and profit. Malm's extension of these categories works because it concerns the labor process and direct capitalist control. For Malm, nature is only formally subsumed in the case of energy sources, like water-power, derived from what he calls "the flow," a category that also includes solar and wind power. The flow is curiously resistant to commodification; it can be appropriated but not exactly owned, since it does not have a precise location, diffused throughout the landscape and atmosphere in ways that resist contract. It is also

³³ Malm, *Fossil Capital*, 309–315.

³⁴ For a corrective account, see Endnotes, "History of Subsumption," no. 3 (April 2010): 130–54.

unpredictable; levels of rivers rise and fall in ways that cannot be controlled, clouds cover the sun for days, wind rises and falls. This makes water power inferior to things like coal, despite the fact that it is free as a result of its uncommodifiability. Coal and other energy sources like it form what Malm calls “the stock,” and these things *can* be really subsumed by capital, meaning that, with coal, capital can produce energy when and where it wants it, disciplining and regulating nature’s provision of motive power. In the context of the early nineteenth century class struggle, Malm argues, the turn to the stock was necessary—capitalists who used water-power were exposed to destabilizing class struggle by their need to stay close to water sources, where workers were in short supply and could thus drive up wages. Furthermore, water-power displayed great seasonal variation. The mills would capture water in a mill pond overnight and then let it out during the day; in the summertime when water was low, this could power only a short working day, such that mill owners made up for lost time when the water returned in the autumn, driving their workers toward very long days. When the Factory Acts of the 1830s were passed, limiting the working day, this latter practice was rendered impossible, further compromising the ability of water power to compete with steam. Despite being cheaper, the unpredictability of water power combined with the resistance of labor to render water capitalists less competitive. Only steam power could deliver the needed predictability. Water mills did, of course, involve complicated mechanisms unavailable before capitalism and therefore featured a really subsumed labor power, but Malm argues that really subsumed labor is incompatible with an only formally subsumed nature. Factories need a steady energy source that can be increased or decreased at will.³⁵

Jason Moore would perhaps critique Malm’s use of these categories for their latent Cartesianism. If nature is seen as something that can be subsumed, formally or really, then it is treated as something external to humans that is only brought under human control through technology. But as I argue above, this terminological precision risks occluding very real differences in different types of relationship between human and extra-human nature, making it difficult to gauge how much extra-human nature is or is not radically reorganized by humans. Perhaps the useful term, in addition to subsumption, is *synthesis*: in the case of coal power, gasoline, electricity, and nuclear power, natural forces are not simply appropriated by humans but actively synthesized by them. The implications of synthesis and real subsumption for the discussion of the

³⁵ Intriguingly the argument formally resembles the fettering thesis with its idea of mismatch between energy source and labour process. Unlike the fettering thesis, though, Malm’s argument describes a mismatch between different technical regimes, rather than between technique on the one hand and social relations on the other.

nitrogen cycle above are, I would hope, obvious: in the system of managed inputs, the life-making powers of nitrogen are formally appropriated through the conservation and recycling of organic wastes, crop rotation, mixed farming, and the planting of legumes. With the Haber-Bosch process, these powers are actively synthesized by humans.

Food and Logistics after the Green Counterrevolution

Malm's use of the terms "stock" and "flow" is an interesting modification of their standard usage by economists, where the first refers to a simple mass of value (or commodity units) and the second to a rate, given in value or commodity units over time. Joan Robinson, quoting Michael Kalecki in conversation, is remembered for her acerbic description of economics as "the science of confusing stocks with flows," because people tend to treat these two measures as commensurable, comparing GDP (a flow) to national debt (a stock), for example.³⁶ Though not commensurable, one can make the two things into a ratio: debt to GPP, for instance, or the profit rate. Stock is simply what builds up where inflows, into a bank account or a factory, are greater than outflows, and thus the relationship between the incommensurables can be modeled mathematically, as one can model the relationship between the depth of a river in feet and its rate of flow.³⁷ Malm's use of the terms means to indicate a distinction between energy flows that build up into a meaningful stock, and those that do not. The inflows of wind and solar energy are always passing into outflows in ways that never form a stock, unlike the chemical energy of former biomass contained in coal deposits. In political economy, the concepts offer ways of thinking about the relationship between revenue, investment, costs, and value transferred. The fixed capital invested in a waterworks would typically be measured as a stock, an initial outlay sunk into machinery at a particular date in time, but one might also calculate its depreciation as a flow of value transferred to the goods the mill produces. Likewise, the coal used by a steam-powered plant will typically be measured as a flow (of value or tons per year or day) but one might also measure it as a stock, by taking its level at a particular moment or its average level over the course of the year. This is where Malm's usage gets interesting, and perhaps confusing, since the turn to coal and the stock that Malm describes was a turn to an increased flow of

³⁶ Joan Robinson, "Shedding Darkness," *Cambridge Journal of Economics* 6, no. 3 (September 1, 1982): 295.

³⁷ For a lucid, though technical, treatment of simple and expanded capitalist reproduction in terms of stocks and flows in time, see Duncan K. Foley, *Understanding Capital: Marx's Economic Theory* (Cambridge, MA: Harvard University Press, 1986), 62–90.

circulating commodities, traveling ever-further distances, and requiring a vast transportation network, itself powered by coal and itself requiring the very coal flows it made possible. Conversely, the waterworks that preceded the turn to steam required no circulating energy inputs but did involve costly fixed capital investment. The free use of the flow was a way of avoiding cost flows for energy inputs but involved fixed capital stock, and the turn to the stock was a turn to flows of energy inputs.

In the postindustrial era, the so-called “logistics revolution” has focused on reducing stocks through a careful management of flows. The goal of “just-in-time” production is to reduce standing inventory as much as possible, by making sure that inputs arrive at the plant exactly when they are needed. Since stock is usually treated as the average level of inventory, this kind of distribution system ends up being “capital-saving,” inasmuch as it reduces the level of capital tied up in production, freeing it for other uses. Capitalists measure their profit rate as flow of net profit over capital invested for a given period of time, taking the average level of circulating capital; therefore, by reducing the latter, the rate rises (though there is the question of what happens to the capital freed up and whether capitalists can find productive uses for it, which is no easy matter). But inventory is not the only cost that capitalists seek to reduce. Fixed capital is inferior to circulating capital because it must be paid for far in advance of its use, making accurate prediction difficult. If demand for the product that a factory produces falls precipitously, one cannot go back in time and change the size of the factory one built, whereas circulating capital can be adjusted as one goes, in order to correspond to existing demand. Labor costs are similar, given the difficulty of firing workers, either because workers will strike and shut down plants when fired or there is legislation preventing arbitrary dismissal. By making the circulation and coordination of various inputs easier, the contemporary logistics revolution should really be understood as an outsourcing and contract production revolution. Instead of producing goods or services directly themselves, many firms reduce their permanent employees as well as their fixed capital investments to the lowest level possible, engaging a network of contract producers and service providers as needed and according to changing market conditions. The result is that capital’s power over labor—now fragmented and dispersed across the logistical grid—increases massively. As I have argued, such logistical restructuring cannot in any way be understood as a simple increase in efficiency. Though costs of circulation and transportation are reduced through more efficient technologies, the gains wrought from these restructurings come largely from their ability to drive wages to the floor and force workers to accept the greatest possible insecurity. This critical understanding of logistics extends the critique of technicism and productive force determinism one finds in Malm. Indeed, the turn to logistics and the turn to steam are remarkably parallel, undertaken in both cases in order to disarm an insurgent laboring population.

Food is logistical now, too. Under the coordinative power of the supermarket system, food travels farther than ever before. But even where source and destination are proximate, the logistics of agricultural inputs—from seeds, to fertilizers, to machinery—are themselves complex and likewise dependent upon long supply chains for their production. And so on and so forth, until after a dozen iterations, the commodity circuit more or less turns back in on itself. Grain and other stable agricultural products have been traded across vast distances since at least the first millennium BC, but in the postwar period international agricultural trade has expanded massively not just by volume but by type of good traded. From 1973 to 2013, the volume of agricultural exports grew by 250%. Some of this can be attributed to the underlying growth in agricultural output during the height of the Green Revolution, as chemical fertilizers and pesticides began to be used in great volume. But total output only grew by 142% during this period.³⁸ In money terms, the increase was sharper still: the real value of exports grew 1364%. Part of that astronomical increase derives from the commodity and energy boom that occurs from 2002-2012. The real value of agricultural exports increased six times more quickly from 2001 to 2013 than it did from 1973 to 2001, but the steeper increase also reflects a shift in the type of agricultural products imported and exported during this period, from bulk goods to “high-value products” such as fruits and vegetables, enabled by new refrigeration technologies and long-range transportation and logistic networks. By 2013, 19 percent of the food that Americans consumed was imported.³⁹ As indices of international travel, these numbers are only partly useful in estimating the extent to which logistics has canalized the food system and with it the productive flows of the earth. A tomato may travel farther from farm to refrigerator when grown in California and sold in Washington, DC than when grown in Mexico and sold in Colorado.

The effect of all this has been a reorganization of agriculture in many areas toward high-value cash crops and away from staples and cereals, which are now imported from places where they can be grown with the most capital-intensive, high-yield techniques, such as the American Midwest. One of the reasons for the logistics revolution is that productivity increases are not uniform across different sectors, and even today, there are many activities that remain unmechanized. For example, while the manufacture of electronics components is highly automated, the assembly of these components is not,

³⁸ Calculated from Table A1A WTO, “International Trade Statistics 2014,” 2014, www.wto.org/english/res_e/statis_e/its2014_e/its14_appendix_e.htm.

³⁹ Alberto Jerardo, “Import Share of Consumption” (USDA, 2016), www.ers.usda.gov/topics/international-markets-trade/us-agricultural-trade/import-share-of-consumption.aspx.

and so assembly companies, Foxconn being the most notorious, are located in places where wages are lowest. Similar processes hold in the garment industry where textile production is automated but sewing is not. In agriculture, most of the labor takes place during harvesting but this work has can only be automated through more or less crop-specific and highly expensive machines, leaving a number of fruits and vegetables to be harvested by hand, despite the near-total automation of other crops. What Bebel says about the machinery-exclusive nature of horticulture still holds true in many areas 135 years later. Harvesting is seasonal, too, meaning that the labor needs of modern farms fluctuate massively, shrinking to zero for much of the year and then ballooning at harvest times. Under capitalist social relations, only a population of marginally employed and underpaid workers, dismissible for any reason, can satisfy the fluctuating labor demand of farms. In the US and Europe these needs are met by populations of informally employed immigrant laborers, though often logistics enables retailers and distributors to go directly to zones and countries with large unemployed populations and low wages to purchase labor-intensive foods. The result is that the distribution of agricultural capacity over the crust of the earth has little to do with the direct food needs of the nearby population, and everything to do with the antagonistic conditions of production for profit.

Malm argues that the real subsumption of nature, and the need for consistent, predictable energy sources has to do with the imperative to really subsume labor, to create massive machine works that can be run at all hours and at any speed and that will determine the discipline, pace, and quality of work by the character of their material design. But the unpredictability of labor, he notes, is constitutive and impossible to extirpate fully. No technology yet exists whereby capital can control the nervous system and compel motion directly; there is still need for coercion and incentive of one form or another. Even in slavery, with the most violent coercion imaginable, the laborers have the power to refuse work and suffer the consequences. Indiscipline can only be controlled, not eliminated. The unpredictability of nature is, also, difficult to eliminate completely. However much the nitrogen cycle is really subsumed in modern agriculture, the productive powers of the earth analyzed and manipulated at the molecular level, agriculture remains a high-risk business, dependent upon climactic factors that are impossible to anticipate let alone control. Like labor, the weather can only be managed indirectly. The result is that few small or medium-sized farmers producing for market can survive without relying on complex forms of credit, insurance, state subsidy, price control, or other support. The prices of agricultural products fluctuate wildly, and the intervention of powerful distribution and supply monopolies has the effect of imposing terms on producers. After the final and total defeat of the global peasantry, meaning that nearly all farmers are market-dependent, food prices always run the risk of being sent to

the floor by competitive forces. The result is that states often intervene in the market. (The US has for decades, as many know, paid its cereal producers to destroy excess grain in order to maintain market conditions, such that the price of US grain is often far below its actual production cost). Given such interventions, and the effect of profit-taking at every level of the chain from farmer to consumer, as well as complex form of credit, there is often little relation between the prices that consumers see and the actual production costs of agriculture. For example, the expansion of commodity futures and other agricultural derivatives means that small rises in cost, due to changing conditions, can be amplified into massive price explosions, as seems to be partly the case for the now deflating commodity and food boom of 2003-2012. This has the effect of creating massive overinvestment with the ultimately perverse result that, once conditions settle down, such strong deflationary pressures emerge that revenue can no longer cover costs, initiating a wave of bankruptcies that bring down costs for the next generation of producers. Production for profit stamps agriculture, with growers changing the crops they offer according to the shifting winds of the market and a series of complex guarantees from states. What is grown first is money, and only then food for human needs.

The rise of contemporary logistics has enabled a shift from so-called “push production” models. In push production, suppliers build out capacity and output, first, and then subsequently clear the market through promotions and sales. In “pull production,” output is linked directly to demand signals, with retailers replacing inventories as they are sold. The limit case, and the ideal for firms like Wal-Mart and the network of suppliers, is one where items aren’t produced until they have already been purchased. Inventory never builds up anywhere, and stocks are kept near zero. Pull production effects a shift in power from producers to retailers or, in some cases, distributors. In agriculture, one notices that distributors such as Cargill and Archer Daniels Midland have enormous power, but retailers or producers for consumption such as Wal-Mart and McDonalds can also cut out distributors and go directly to farmers. Under logistics, supermarkets become a new locus of power.

The combination of the logistics and green revolutions has led to an increasingly wasteful food supply system. One might think that elimination of standing inventories from retailers and distributors would make for less waste, but unlike manufacturers, food producers have far less ability to alter their output. Agriculture has relatively long turnover times, and farmers have to make decisions about output levels far in advance of actual sale, all while anticipating the possibility of a bad harvest due to uncontrollable factors. They often make advance contracts with distributors and retailers, but given unpredictability, find it more profitable to overproduce, as the costs of producing too much are lower than the opportunity costs of producing too little. In other words, push

production remains the norm in agriculture, despite the demand-side dominance of the industry, and thus producers are often left with more food than they can sell at decent prices. Supermarkets also have stringent aesthetic and quality standards, rejecting agricultural products that do not conform to rather superficial consumer values. And because retailers and distributors now dominate, their contracting allows them to switch from supplier to supplier, forcing the costs of compelled overproduction further down the value chain. This dynamic results in a staggering scale of food wastage, with somewhere between 29% and 34% of all food produced globally not consumed.⁴⁰ In industrialized countries, a good portion of food wastage happens during consumption, as food rots in refrigerators or pantries. But the relative power that logistics has given retailers and distributors over farmers is a big part of the problem. As the edges and vertices of the food system multiply, so too do the cracks into which food might fall, never reaching human bodies. The reorganization of the food supply by the green revolution has doubtless led to increased output per acre, but it has done so while massively amplifying waste and severely compromising its ability to meet human needs. The system looks highly inefficient even before we begin to consider how energy-intensive and water-intensive this way of producing and distributing is, and how much it contributes to total carbon emissions and, in turn, destructive climate change that will adversely affect food production. Moore cites studies that show that, under modern “petro-farming” conditions, the ratio of energy calories to food calories has nearly almost doubled since the 1970s and grown by almost 10 times since the 1930s.⁴¹ Scaling up such a system to meet the needs of 9 or 10 billion people will be difficult, to say the least. Doing so while reducing overall emissions and energy use will be impossible.

Revolution and Agriculture

With a few important exceptions, the social revolutions of the nineteenth and twentieth centuries were agrarian revolutions, undertaken in societies that had not yet fully transitioned to capitalism and where agricultural production was still mediated by the conflict between peasants and landlords. Some of these revolutions were led by peasants, as in China, or by alliances between peasants and workers, as in Russia and Spain. In many cases, the rebellious workers were newly proletarianized and still retained some connection to peasant traditions and values. The question of land reform

⁴⁰ Calculated from Gustavsson, “Global Food Losses and Food Waste” (FAO, 2011), 5.

⁴¹ Moore, *Capitalism in the Web of Life*, 252.

was central in all these cases, as the peasantry was squeezed by the encroachment of capitalism on one side and the rapacity of the old regime on the other. To say that these social revolutions were agrarian means that their dubious successes had the effect of accomplishing, through various processes of expropriation and violence, what the normal development of capitalism in many other countries could not: in Russia and China, the landlords were eliminated and the productive use of the land entirely reorganized. In other parts of the developing world, the old landed powers retained their hold for much longer, even after the peasantry had been more or less dispossessed, and as a result reorganization of agriculture there has been much more slow-going. Yevgeni Preobrazhensky, one of the most clear-sighted of the economists that the Bolsheviks had on their side, explicitly describes what needed to happen in the Soviet Union as a form of “primitive socialist accumulation,” displacing the peasantry and converting the land to new use, though he doubtless imagined something different than Stalin’s genocidal collectivizations.⁴² By 1936, the Soviet Union was producing 112,000 tractors per year, nearly double the number of 1933, and only slightly below the number of motor vehicles produced, part of a massive push to industrialize agriculture.⁴³ By the 1970s, the Soviet Union was the world’s second largest producer of both potassium and nitrogen fertilizers.⁴⁴ Though the Soviet food system was mired by chronic shortages and inefficiencies in production and distribution, something that derived from the contradictions of what Hillel Ticktin called its “non-mode of production,” this was not for want of industrializing nature. Indeed, the peculiarities of Soviet accumulation made it particularly wasteful, even judged by the standards set by capitalism.⁴⁵ Since defects marred nearly all final goods, the system tended to overproduce raw inputs—steel, coal, or cement—in enormous quantities, and to generate stockpiles of intermediate goods that could not be utilized because of bottlenecks in the supply system.⁴⁶ The fact that

⁴² Eugenii A. Preobrazhensky, *The Crisis of Soviet Industrialization* (London: Palgrave Macmillan, 1980), 20–30.

⁴³ Donald A. Filtzer, *Soviet Workers and Stalinist Industrialization: The Formation of Modern Soviet Production Relations, 1928-1941* (Armonk, NY: M.E. Sharpe, 1986), 126.

⁴⁴ CIA, “Soviet Fertilizer: Expansion of Output and Exports,” March 1975.

⁴⁵ Hillel Ticktin, *Origins of the Crisis in the USSR: Essays on the Political Economy of a Disintegrating System* (Albany, NY: M.E. Sharpe, 1992), 33.

⁴⁶ Filtzer, *Soviet Workers and Stalinist Industrialization*, 254–271.

the Soviet system could produce things like fertilizer more easily than it could produce wristwatches or radios no doubt contributed to its high utilization.

An authentic twenty-first century revolution, breaking with capitalism and all class society, will likewise have to be an agrarian revolution, though in a far different sense than those described above. It will have to radically transform the way food is produced and distributed, not only because the present food system is wasteful, toxic to humans, and environmentally destructive, and not only because climate change stands to radically alter what can be grown and how and where it can be grown, but also because, even more importantly, the capitalist organization of nature as agriculture will, if relied on, entirely incapacitate such revolutions, guaranteeing the restoration of class society. Agriculture as we know it now is saturated with market relations; the distribution of various domesticated organisms across the surface of the planet, as well as the inputs which make their cultivation possible, has been undertaken with an eye toward the maximization of profits first and satisfaction of human needs second. Based on the historical record, we must assume that revolution will break through—that is, defeat the reigning powers, and find itself in possession of the means of production—in isolated zones first, as part of a global revolutionary wave. The partisans in such situations will find among their most immediate tasks the maintenance of an adequate food supply, most likely under conditions of civil war. In modern societies, maintaining the food supply depends, in turn, on several other essential industries and infrastructures: for water and energy, for transport, and for the manufacture of the goods used directly or indirectly by agriculture.

Revolutions cannot survive persistent food shortages, inasmuch as the absence of food activates the most powerful forms of self-interested and survival-oriented activity, even among those who are committed to the revolution—pilfering, hoarding, marketeering. Exhorting people to sacrifice and discipline will only work for so long; eventually a split will emerge, between the activist minority fanatically devoted to the revolution, even unto the point of death, and those masses whose attachments are weaker, who want the revolution to succeed but will withdraw their support when the risks are too high, the prospects uncertain, and the miseries unbearable. In most revolutions, the activist minority turns, at this point, from moral exhortation to violent coercion, inducing even more demoralization, distrust and disaffection. The Bolsheviks provide an object lesson; having earned the distrust of a partially sympathetic peasantry during the war years, when the Red Army was in the practice of seizing grain, the peasantry responded by underproducing and hoarding. The Bolsheviks concluded that they could regain control over agricultural production only by violently dispossessing the peasants, arrogating to themselves a degree of state power that assured the revolution was definitively dead, albeit a better-fed sort of dead. In civil war Spain, where many of

the partisans were significantly more skeptical of state power and violent coercion, and committed to democratic ideals and participatory, locally-controlled organization of agriculture, the fact that the Francoist rebels controlled the rich grainlands and cattle-grazing areas of the Southwest meant that the Republic and its armies were continuously undersupplied. The predicament induced all manner of cynical, opportunist, and survival-oriented behavior among peasants and townspeople that only increased as the militants betrayed their democratic ideals and instituted forms of military policing and punishment in order to compel compliance.⁴⁷ Revolutions that rely on such police actions in order to insure compliance—which is not at all to argue against the use of violence as defense against counter-revolutionary forces—effectively sign their own death warrant.

Fortunately, twenty-first century revolutions will not have to reckon with the problem of the peasantry, especially if we define peasants as those who produce for their own subsistence first and for the market second. Almost all global agricultural production is market-oriented now. In developed countries like the US, while the number of farms has stayed the same for decades at around a few million, many owner-operator enterprises generate negligible output (with the owners usually working elsewhere); a few hundred thousand farms generate most output, a number that has fallen decade after decade as average farm size rises. As such, the number of people who control the land differs from that of Russia or Spain by a few orders of magnitude, and most of these farms are highly capitalized if also non-corporate enterprises that employ significant numbers of workers. These people will need to be won over to the cause or expropriated but they form an incredibly tiny minority compared to the great masses of people that would be involved in such an undertaking. In less-developed countries, control over agricultural resources is more fragmented, and involves a higher number of underclass people but still fewer people than the thoroughly peasant-based societies of old.⁴⁸

⁴⁷ Michael Seidman, *Republic of Egos: A Social History of the Spanish Civil War* (Madison, WI: University of Wisconsin Press, 2002); Michael Seidman, *Workers against Work: Labor in Paris and Barcelona during the Popular Fronts* (Berkeley: University of California Press, 1991).

⁴⁸ Many of these semi-peasants are forced by the overproduction of the market elsewhere to farm with the most rudimentary of techniques on the most marginal techniques, which is to say that overproduction in certain countries leads to underutilization of the land elsewhere, and a large population of people who remain in the countryside but are more or less dispossessed. Mazoyer and Roudart, for instance, argue that problems of undernourishment in the developing countries are not at all technical but in fact social: Mazoyer and Roudart, *A History of World Agriculture*, 440–491.

More significant will be the problem, seen already in the Spanish case, that revolutions confront when they discover that neither the necessary means of subsistence, nor the means to produce such means of subsistence, exist within the revolutionary zone. In such conditions, partisans will have to decide between, on the one hand, trading with capitalist partners for necessities and therefore organizing production for export or, on the other hand, radically reorganizing agriculture in order to meet endogenous need. If the partisans choose trade, they expose themselves to the powerful disciplinary effects of the global market and the law of value, needing to produce at competitive levels, even when they do not confront more active intervention in the form of embargo and blockade. Capital flight happens immediately in conditions of political instability, and in all likelihood, by the time the reigning powers have been deposed, international capital markets will have exerted profound disciplinary pressure, offering credit under the most punitive terms. Since exchange rates are connected to the credit system, everything imported will cost much more. Unless revolutionaries try to go it slow and not freak the credit markets, guaranteeing their total ineffectiveness (see, for instance, the sad fate of SYRIZA), the only solution that import-dependent revolutions will discover is to hyperexploit their producers in order to maintain competitive terms. But revolutions generate conditions in which managerial control over the workplace breaks down entirely; productivity levels will certainly fall, especially if wages and money continue to be used, fostering antagonistic relations in the workplace. The only way to raise productivity for partisans in such conditions will be through indirect and direct violence—instituting systems of incentive and punishment that will run, probably very quickly, from the use of piece-rates to the establishment of work camps. This is precisely what happened in Spain, accepted as baleful necessity even by the erstwhile libertarians. The result: massive demoralization, insubordination, and all but the most fanatical turned against the revolution as a matter of survival.

Recognizing that this way lies certain failure, and that revolution will not break through globally in the short time frames that would be necessary to prevent the relative isolation of revolutionary zones, one can only hope that partisans will try a different way, reorganizing agriculture (and everything else) in order to meet existing needs independently of trade with capitalist enterprises and powers, or with, at the very least, a very small amount of such trade, not large enough to induce the crippling effects described above. I take as my framework here a view that the horizon of revolution in our time involves “communization” of all resources and relations: the immediate abolition of money and wages, state power and administrative centralization, and the organization of social activity without these mediations, on the basis of immediately—

that is, directly and sometimes personally—social relations.⁴⁹ The inherited impasses of the logistical reorganization of production are one of the reasons why I think revolutionaries will turn to communization, but they will do so in situations in which various factions are trying out different paths, and in which state power and trade may continue to exist at the same time as people are breaking with them, inaugurating a revolution within the revolution and attempting to organize in order to meet their needs directly.⁵⁰

As far as food production goes, this will mean, by necessity, a return to the old nineteenth-century project of abolishing the division between town and country and recognizing more clearly Moore's double internality, a project that will involve everything from neighborhood gardens and urban farms to large-scale farming projects at the suburban perimeters of various towns and cities as well as the re-planting and reorganization of vast tracts in agricultural heartlands. Even when the revolutionary zone is rather large, and production at a distance of thousands of miles is possible, the sensible path will be to localize food production as much as possible, not only in order to cut down on energy use in transportation but also to establish a situation in which some large portion of people's food needs is immediately available and ready-to-hand, within some reasonable distance, making it much harder for them to be subjugated by a bureaucratic layer, a hostile power, or an emergent attempt at capitalist restoration. Partially localizing the production of foodstuffs and other necessities would obviate the need for money or pseudo-money, wages or labor tickets, allowing the ready-to-hand goods to be distributed on demand, with a relatively low level of administration. Production and distribution of the fruits of social activity could, on this basis, happen voluntarily and freely; even if money and exchange persisted on the fringes for a time—most likely due to the presence of different factions, pursuing different revolutionary paths—if most of what people needed to live were organized this way successfully, on a communist basis, communism would stabilize. And if it stabilized it would spread, as the existence of people meeting their own needs and thriving without the mediation of money, wages, or violent compulsion would be enormously destructive for capitalism and class society elsewhere. It would mean either the beginning of the end for class

⁴⁹ For a good description of communization as practice, see Gilles Dauvé and Karl Nesic's explanation from *Troploin*: libcom.org/library/communisation

⁵⁰ I borrow this conception of communization as revolution within revolution from Theorie Communiste: R.S., "Self-Organisation Is the First Act of the Revolution; It Then Becomes an Obstacle Which the Revolution Has to Overcome," *Revue Internationale Pour La Communisation*, September 2005, meeting.communisation.net/spip.php?page=imprimir_articulo&id_article=72.

society or the moment at which class powers gathered their forces to extirpate the threat. Although the aspiration of communism is to be global and universal (if also full of endless internal variation) and to establish a situation in which everything belongs to everyone and no human has more of a claim on the necessities of life than any other, it must begin somewhere. Previous generations of communist theorists have misunderstood as temporal transition—passage from capitalism to socialism, and from socialism to capitalism—what is actually a spatial one, the geographical spread of an immediately social communism that is contagious for the precise reason that it is fully realized. Such geographical extension will itself take time, however, and even though communization means the establishment of immediately communist relations, the material basis of such relations as well as the processes through which they are effected will no doubt develop, deepen, and stabilize in time.

In a thoughtful essay on contemporary logistics, Alberto Toscano asserts, contra my views here and elsewhere, that “the world market remains, in however arduous a way, a presupposition (not a framework!) for any transition out of capitalism.”⁵¹ Toscano suggests that I am more right than I know: the reorganization of global production has made breaking from the world market not only difficult but impossible. On one aspect of the problem, we agree: revolutionaries will undoubtedly use, when possible, the technologies of transportation and storage upon which the world market depends. But they will find such resources inadequate and even, in some cases, inimical their needs: located in the wrong place, designed in the wrong way, and so on. The world market is a presupposition, inasmuch as it is the world revolutionaries inherit, but it is a presupposition that will provoke, by its very inadequacy, new techniques and methods. The market is more than a means for distributing necessary goods in space; it is the circulation of such goods as mediated by exchange, stamped by the contortions of the law of value. Markets involves numerous activities—banking, retailing, advertising—that have no reason for being aside from exchange and no purpose except for the reproduction of the commodity form, that is, production for exchange.

Many of these counterarguments derive their force from a commitment to Marxist modernism, a belief not only in the progressive character of technological development, but the “civilizing” effects of the world market, which, for all its violence, breaks down national and cultural barriers and provides the basis for international proletarian solidarity. For many, the scenarios described above violate a deeply held commitment to “internationalism” and an allergy to “socialism in one country.” Evaluating the contemporary conjuncture with a crudely dogmatic schema inherited from the 1917

⁵¹ Alberto Toscano, “Lineaments of the Logistical State,” see page 58.

revolutionary sequence, these critics confuse a set of normative positions on international proletarian organization and solidarity with a description of the actual conditions in which revolutions will unfold. Obviously, *it would be better* if revolution could break through in several parts of the world all at once. But revolutions occur on the basis of what is, not what ought to be. The problems described here depend very little on the character of organizing; even if there are proletarian organizations linking struggles in different parts of the world, proletarians in zones where they do not control the resources will be limited in their ability to help the revolutionary zones, except inasmuch as they force revolutionary breakthrough where they are. This should not in any way be seen as an acceptance of the framework of national boundaries and the nation-state as the basis for a revolutionary unfolding. On the contrary, the immediate establishment of communist reproduction and relations, making it easy for people to feed themselves directly and without money or centralized administration, dissolves state control and national designation, producing rifts within and across national boundaries. The opposition of “internationalism” to “nationalism” discounts the ways in which Marxist internationalism was, in practice and as far as the Second and Third Internationals were concerned, something that proceeded *through* nation states, and on the basis of nationally coordinated blocs of proletarian power mediated by the world market. The necessary turn to communization described above would do more to destabilize the nation and state power than those forms of “internationalism” that take these institutions as their basic presuppositions.

Neither would this revolutionary trajectory involve what Toscano calls a “re-ruralization, where social form is based on comradeship, friendship, or some kind of band of brothers bond.”⁵² Overcoming the division of town and country would mean the end of the rural, through processes involving at a minimum tens of millions of people and probably hundreds of millions if not billions; it would involve the such coordinations would take place under conditions in which as many basic and necessary coordinated distribution of necessary and useful things at all sorts of scales from the immediately local to the intercommunal and across the revolutionary zone. The salient distinction, however, is that goods as possible are generated close to those who need them, making it much more difficult to dispossess or disempower people, who would both understand and have control over the processes that matter for them. This is what is at stake in the abolition of the division between town and country. Nonetheless, one need not fear a retreat into autarkic, isolated communities, which is as impossible as remaining tied to the world market. Many infrastructures, such as those for water or energy, will require coordination at scale, as will the generation of many necessary and

⁵² Ibid.

useful goods. Furthermore, not all food production can be shifted close to where people live, nor can people be quickly shifted to the places where food is grown without great suffering, and until a reorganization of towns and cities through processes of voluntary resettlement can take place, people will no doubt rotate seasonally out to the agricultural heartlands where food is currently produced.

In the scenarios described above nearly everyone would have some hand in growing the food they eat. In such a state of affairs, agriculture would doubtless become more effort-intensive in the developed world, as breaking with the world market will leave many without access to the machines and fertilizers and pesticides that industrialized agriculture uses today. This is not such a problem: as a share of total human effort, the amount of time devoted to agriculture in countries such as the U.S. could increase by a factor of 10 and still not account for a very large part of people's overall activity. In the developing world, agriculture would no doubt become less effort-intensive by eliminating the need for the poorest producers to work the most marginal, plots of land with the worst techniques and equipment. This is not to imagine anywhere some regression to premodern techniques and relations. Agriculture will be immediately social, rather than organized by family or clan (or capitalist firm), and people will doubtless continue to employ many of the technologies, if not the chemicals, used to grow food today. There will surely be tractors and other machines for working the earth and harvesting its fruits, trucks for the transport of produce, but these will, I suspect, exist alongside methods that rely more on the human hand, associated with permaculture, mixed planting, and other "traditional" techniques. In certain areas, people may find it impossible to meet their food needs without synthetic fertilizers, and as such will have to figure out, for instance, how to run the ammonia plants and supply them with natural gas, or track down phosphorus and potassium deposits. In any case, the use of such fertilizers will surely decline, if they are not eliminated altogether. Agriculture under such situations will involve a mix of high and low-technique, where methods are selected for their suitability for human needs and their ecological imprint, rather than their usefulness in production for profit.⁵³ Though many like to imagine "planning" as only referring to centrally administrated production occurring at national or international scales, any activity that is social at any sort of scale will involve planning—though not central planning—and partisans in the scenarios I imagine will need to engage in various infrastructure

⁵³ For an account of the necessary mixture of high and low-tech in future agriculture under conditions of climate change, see the article *Out of the Woods*, "Contemporary Agriculture: Climate, Capital, and Cyborg Ecology," *Out of the Woods*, July 27, 2015. They emphasize the plasticity of traditional farming systems and their ability to incorporate practical technologies where useful.

projects: for irrigation, for the recycling of organic wastes, and for energy generation and transmission.

Revolution and its Motive Forces

Speculation of the sort I engage in here is essentially impossible without making assumptions about the kinds of choices people might make in such a scenario, and this implies speculating, as well, about the reasons for those choices. I take as my baseline an assumption that people organize their lives with an eye to their own survival and well-being and the survival and well-being of those they care about, where the radius of care can be as small as the family nucleus or “friend group” but far more expansive as well. This makes thinking about a less destructive organization of nature both human and extra-human extremely difficult. Most attempts by anticapitalists to think through meaningful political response to the ongoing ecological catastrophe that is capital fail because of their inability to reckon with human motives and with the fundamentally human-centered character of human action. The absence of significant response to the mass extinction wave sweeping the planet, not to mention the mounting certainty that anthropogenic ecological change will have profoundly negative impacts on human life in the near-future indicates that, unless their immediate well-being is at stake, people are unlikely to engage in the risky, difficult action that revolutionary change requires. The exceptions to this comparative quiescence almost always occur in the case of groups, such as indigenous or agricultural communities, whose livelihood and social forms are endangered by ecological destruction. Those who would point to the radically different conceptions of human nature and its relationship to extra-human nature that occur in various cultural formations are no doubt correct, but these conceptions usually articulate the interdependence of human and extra-human forces, and therefore do not provide exceptions to the rule of human-centered action, only an awareness that valuing human life means valuing extra-human life as well. Revolutions emerge when human reproduction is at stake, though in some cases people are more aware that human reproduction is also the reproduction of nature. To summarize, the argument of the preceding pages might be understood thus: if twenty-first century proletarians communize the food supply and reorganize agriculture, overcoming the division between town and country, they will do so not because this accords with their ideals but because these communist measures will emerge as the best, and indeed only, way to meet their needs in a revolutionary conjuncture, given the path-dependencies of productive resources they inherit from capitalism. Seen from the vantage of the ideal, however, these measures will fortunately also involve a profound break with the toxifying food regimes of capitalism, dumping less carbon into the air and less nitrogen

into the oceans and fewer poisons into the groundwater. These ecological benefits will emerge, however, as a result of choices that are more or less anthropocentric.⁵⁴

Despite its lucid account of the path dependencies fossil fuel technology engenders, when Malm turns to the present crisis of fossil energy, he ends up relying on a normative theory of motives or perhaps no theory whatsoever, giving us an account of what we must do or should do rather than what we can do. In the first pages of the book, he illuminates nicely the strange temporality of anthropogenic climate change. The consequences of fossil energy use present a singularly difficult problem for collective action: by the time their effects are felt most pressingly, obliging people to act in order to preserve their well-being, *it will already be too late*. In a phrase in which we can hear echoes of Marx's discussion of rising organic composition—that is, the rising relative weight of dead labor to living labor—Malm tells us that, with fossil energy, “the causal power of the past inexorably rises.”⁵⁵ At a certain point, the moment of “too late,” one witnesses the *falling in of history on the present*, as the weight of past action breaks through the ceiling. Unfortunately, Malm's answer to this predicament leaves much to be desired, relying on wishful thinking rather than sober realism. Malm rejects the “revolutionary” response to ecological destruction—that is, the response which says capitalism is incapable of averting ecological disaster—for the simple reason that revolution will not come quick enough to stop a temperature rise of 2 degrees Celsius. But deciding that 2 degrees is your line in the sand does not necessarily mean that anything will be done to stop it. And, of course, too late is relative. There is, when it comes to these matters, bad and worse. We appear to have long missed our chance to

⁵⁴ This is a difficult point, and one that requires more attention than I can give it here, not least because of the difficulty of speculating about human motives in general. While revolutions are ineluctably human-centered, not all action is, and people are for the most part not simply indifferent to their effect on extra-human nature. Given a choice between two ways of arranging their lives that seem more or less equally acceptable, where one will lead to the degradation of ecosystems, the death or diminishment of species, most people will choose the kinder path. They will even, in many cases, give up substantial comforts for the sake of the birds, rivers, and forests. But these values are, for majority of people at least, too weak on their own to provide the motive force for revolutionary change. One way to think about a classless society of the sort described above is as a situation where, inasmuch as everyone's needs are met, people can value the flourishing of life as such for its own sake. Furthermore, once people are no longer driven by the day-to-day demands of survival, on the one hand, or the imperatives of accumulation on the other, they can begin to think about the generational effects of their actions, and may care about human effects on extra-human nature for reasons that are, in the end, human-centered. I hope to develop a theory of revolutionary motives adequate to these questions in a related project.

⁵⁵ Malm, *Fossil Capital*, 9.

avert the bad, if not the worst, and sober analysis may require accepting this fact and preparing accordingly.

Malm's own account of the origins of fossil capitalism and the turn to steam appears to put in question his confidence that climate change can be averted from within capitalism simply because it has to be. His central claim is that capitalism can return to the flow as an energy source, leaving behind the carboniferous stock. However, as he knows, the very properties of the flow which led capital to turn away from it remain a powerful obstacle to such a transition, haunting wind and solar power just as much as they did the streams of the English midlands. The flow is unpredictable; it cannot be turned on and off at will. This causes a problem for industrialized societies that run on the premise that energy is available on demand, part of an "abstract spatiotemporality" in which neither distance from energy source nor the variable rhythms of natural forces matter at all. One can store the electricity generated, but doing so requires manufacture of energy-intensive batteries, such that the ultimate environmental benefits of such a switch are unclear. In confronting this problem, Malm returns to an intriguing counterfactual account he developed when examining the decline of water-power: *it might have been possible*, he tells us, to build massive waterworks, capable of delivering steady, reliable energy to various factories, across large distances, had capitalists been able to solve their coordination problem. The competitive urgencies of production for profit, however, made this impossible. If it were the twentieth century, the state might have undertaken such projects, as it would eventually with the highways, railroads, utilities and other vital infrastructures individual capitalists could not fund on their own. Now, however, it is not the nineteenth century but the twenty-first, and Malm argues that we might "return to the flow" through a massively coordinated global effort, led by states and international organizations, in which the variability of flow energy (due to diurnal rhythms and weather) is rendered predictable through a planetary network of energy transmission from flow sources. Since the sun is always shining and the wind always blowing somewhere, long-distance transmission can, potentially, overcome the unpredictability of the flow, rendering it as homogeneous as stock energy and as capable of meeting the abstract spatiotemporality of capitalist production. It is not at all clear, however, that the energy and emissions accounting will really work in the favor of such scheme—much electricity is lost in transmission, even with high-voltage direct current, and those losses are proportional to the distance traveled. Secondly, the transformers, power lines, and wind and solar fields will themselves require massive energy outlays to build and install, also proportional to distance traveled in some cases.

To build clean and cheap energy generation, one will almost certainly have to use dirtier, less-efficient energy, and this may render any benefits nil.⁵⁶

Even if we were to allow for the possibility of producing the materials in such a way that net emissions fall, why would states engage in such a process? As Malm indicates, the resources mobilized by such an undertaking would be massive, on the order of tens of trillions of dollars at least. He makes a comparison with the Second World War, which is a good benchmark. World Wars, however, represent immediate existential threats for states and capitalists, and also offer strong opportunities for capital to profit; they also involve alliances that, because of the antagonistic character of warfare, are actually less extensive than the sorts of alliances Malm envisions. The temporality of future threats still obtains in the case of states, and furthermore, the hurdle is much higher, since a significant fraction of capitalists (petro-capitalists, in particular) will be ruined by such a turn. One must imagine, then, either an international political elite willing and able to act in the interest of human life in general, or a social movement capable of exerting massive pressure on state. The first scenario is absurd, and the second returns us to the question of motives and the belatedness of action. Such a social movement will appear only when severe consequences of anthropogenic climate change have already begun to manifest. Even if such a turn were likely in the next decade, these states would face the problem of social democratic governments everywhere: infrastructure projects of this sort require, as their primary condition, that states first ensure general conditions of profitability. Otherwise, they will find themselves without sufficient credit or tax revenues. How does one maintain conditions of profitability while ruining a large sector of the capitalist economy and spending trillions of dollars on unprofitable utilities? And how does one do this with a stagnating world economy, mired by low profit rates and high debt overhangs? Here and elsewhere, latter-day social democracy depends on scenarios far less plausible than the revolutionary ones. Malm might be said to offer a strange inversion of the fettering thesis; instead of attempting to overturn the social relations of capitalism in order to accord with the underlying technical possibilities, he imagines reconfiguring those technologies to suit the requirements of abstract spatiotemporality. Both approaches capitulate to the extortionist logic of parable of the

⁵⁶ For a more pessimistic take, see this piece by former researchers at a Google-sponsored initiative to develop cheap renewable energy. They argue that even if one could develop renewables to replace all electricity, it would still be impossible to reduce emissions significantly, partly because capitalist producers would not switch over quickly enough (unless very cheap energy could be delivered). Their argument assumes, like Malm, transition within capitalism. Ross Konigstein and David Fork, "What It Would Really Take to Reverse Climate Change," November 18, 2014, spectrum.ieee.org/energy/renewables/what-it-would-really-take-to-reverse-climate-change.

belly, and therefore preserve, in one form or another, the very forces which will ensure their failure.

In short, we have to accept that our only hope of averting the worst effects of the present ecological crisis lies in the rekindling of revolutionary class struggle in our time, either in response to the first effects of climate change or the continuing meltdown of the world economy. Belatedness, however, is at this point a given, and such a revolution will be forced to reckon with the problems of a warming planet, rising sea levels, acidifying oceans, growing deserts, depleted water supplies, and the human displacements to follow. The biggest problem for such revolutions will concern energy: how to continue to supply electricity? How to run or replace the motorized machines which that refined petroleum? Answers to these questions will vary from place to place. For the next couple of decades, few areas will find it possible to break free from the stock completely, but by the same measure they will also find themselves compelled to conserve energy sources massively, devoting energy to the most important human needs, in ways that capitalism never could. Renewables will likely form a part of this, though people will need to reckon with the mining processes that some of these technologies involve. The so-called “rare earth” minerals that solar panels and wind turbines require are not actually very rare at all; the extraction processes they involve are, however, so environmentally destructive and toxic at present that they are currently confined to countries, such as China and the DRC, willing to convert hundreds of square miles into toxic “sacrifice zones.” In any case, without profit or price mechanisms, and without a need for continuous growth, diurnal or seasonal variability of energy supply would be much less of a problem. Though certain systems will require continuous energy, communism will prove itself much better able to adapt to the rhythms of flow energy, turning machines off and taking a nap, perhaps, when the clouds cover the sun or the wind dies.

There are no guarantees, it should be clear: the revolutionary horizons described in the preceding pages are happy outcomes surrounded by tragedy and affliction on every side. The obstacles that capitalism has placed in the path of revolution, defeating all half-measures and vacillations, are formidable indeed. This is a cause for optimism as much as pessimism: because of capital’s total transformation of the earth, an immediately communist reorganization of human society makes rational sense today in a way that it did not in 1917. In any case, these are the futures visible from here. Not what must happen, but what can. 🇷🇺